Commonwealth of Virginia Healthcare Sector: 2011 Broadband and Health IT Analysis

January, 2012

Deputy Secretary of Technology
Commonwealth of Virginia

Project Goals

- Identify changes in healthcare broadband connectivity across provider segments

  - Provide data updates to Commonwealth broadband mapping team in support of Healthcare Broadband Map

- Identify progress in key HIT capabilities across the Commonwealth

  - Electronic Health Records (EHR)

  - Health Information Exchange (HIE)

  - Telehealth

- Refine survey methodology to facilitate annual updates and broaden participation

  - Online survey instrument, with offline capabilities

  - Secure public and private healthcare industry endorsements (government agencies, associations, societies) to drive participation

- Support outreach/data gathering for HIT groups (e.g. Virginia HIT REC)

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Target Provider Universe

- **Hospitals**
  - Acute Care, including SHIP/Critical Access
  - Specialty/Other
- **Physician practices**
- **Rural Health Clinics**
- **Community Health Centers**
- **Other key provider segments:**
  - Behavioral Health/Developmental Disability
  - Free Clinics
  - Home Health Agencies

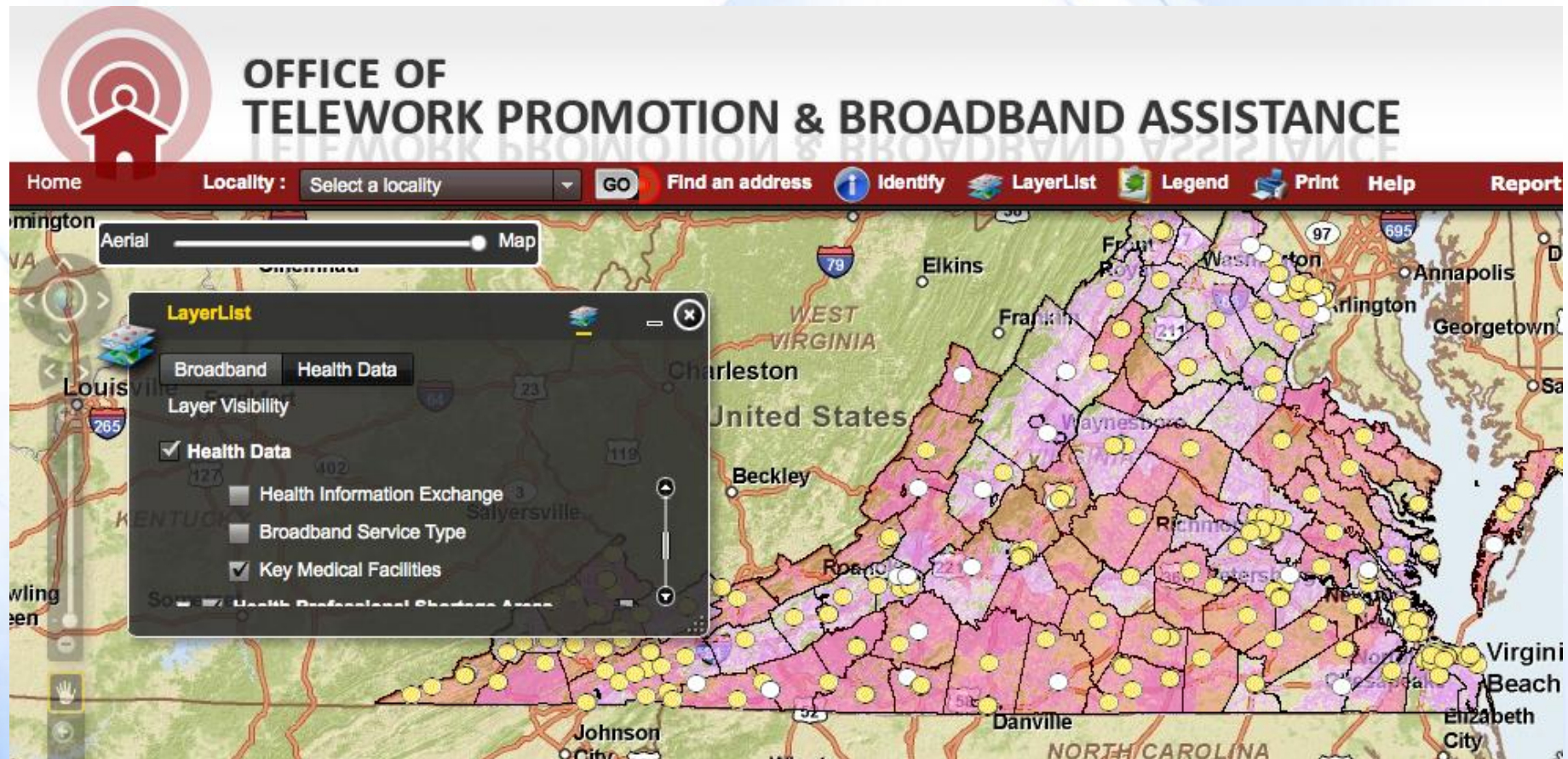# Public/Private Endorsement and Promotion

Public

Private

2010 Survey Data: Key Uses

- Data now populating a new Healthcare layer on the Commonwealth's Broadband Map

- Illustrating key healthcare facilities and health professional shortage areas relative to broadband availability; also growth in HIT usage relative to broadband availability over time
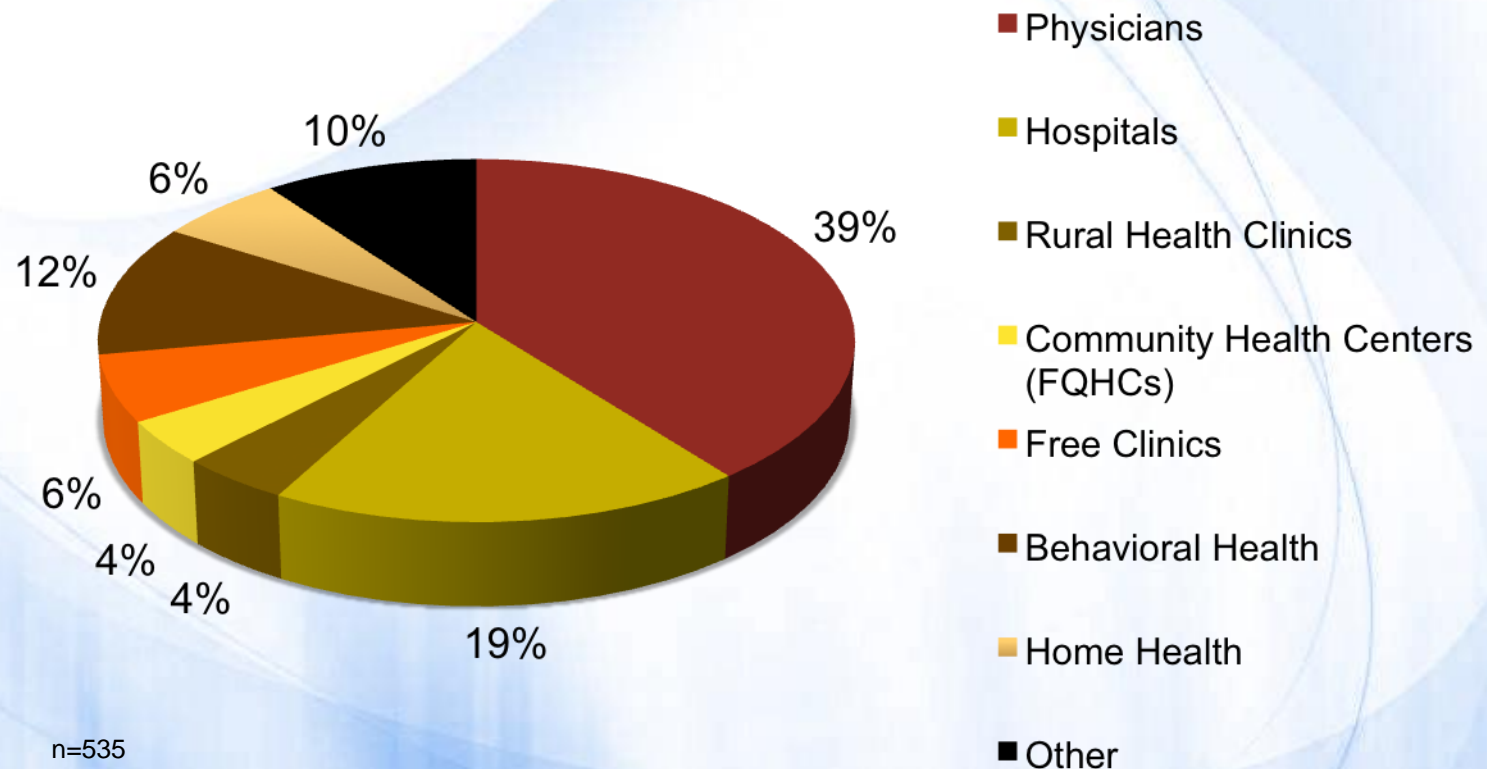
2010 Survey: Additional Outcomes

- Provided information on locations requesting support to Regional Extension Center (Virginia HIT REC), allowing for education and promotion of Electronic Health Records with rural practices and clinics

- Provided data to support Commonwealth projects and grant applications for Health Information Exchange initiatives

- Provided data and analytical support for regional Telehealth hubs and key telehealth initiatives

  - University of Virginia Office of Telemedicine
  - Mid-Atlantic Telehealth Resource Center (newly formed)
  - Virginia Telehealth Network
  - Bay Rivers Telehealth

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2011 Survey Improvements

- **Increased respondent participation by <u>more than 50%</u>**

  - Increased promotion among Commonwealth healthcare associations and societies

  - Deeper 'integration' of survey with existing Commonwealth healthcare associations' conferences and communications

- **Increased outreach and participation with 'limited-broadband' provider segments, via print/fax alternatives**

  - Supported Virginia Department of Health and Virginia Rural Health Association outreach to Rural Health Clinics in Virginia, achieving more than 50% participation

  - Worked with Medical Society of Virginia to reach Rural Physicians via 'blast' fax

  - Nearly 30% of survey respondents located in Rural or Mixed Rural counties

- **Increased reach to Free Clinics (~50% participation)**

- **Modified survey instrument to focus questions more directly on 'mappable' information**

Survey Demographics: All Providers

- Provider participation was significant in hospital and physician populations, with additional support from Rural, Community, and Free clinics and behavioral and home health providers

- Rural providers are well-represented, with approximately 30% located in Rural or Mixed Rural counties (per the Isserman definition)

Legend:
- Physicians
- Hospitals
- Rural Health Clinics
- Community Health Centers (FQHCs)
- Free Clinics
- Behavioral Health
- Home Health
- Other

Pie chart values: 39%, 19%, 4%, 4%, 6%, 12%, 6%, 10%

n=535

Note: Other category includes Nursing Home, Assisted Living, Pharmacy, EMS, and State and Local Health Agency respondents

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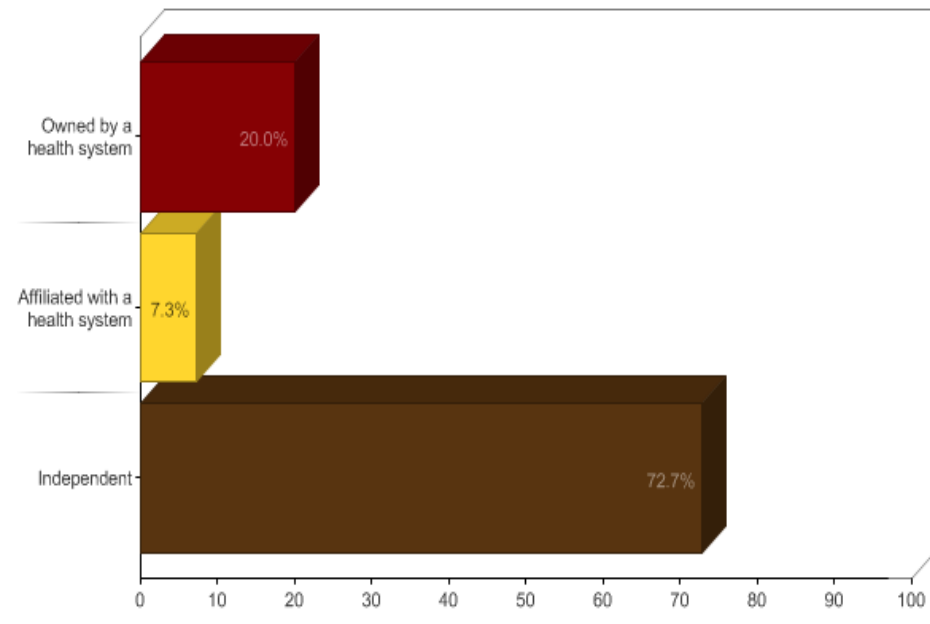CENTER FOR INNOVATIVE TECHNOLOGY

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Hospital Participation

- **All major hospital systems represented in 2011 results**
  - Most with multiple locations responding

- **Nearly 50% of all acute care hospitals represented**

- **50% of SHIP/critical access hospitals represented**

- **Nearly 30% of hospital respondents located in Rural/Mixed rural counties**

	System Participation	Multiple Responses
Bon Secours	✓	✓
Carilion	✓	✓
Centra	✓	
HCA	✓	
Inova	✓	✓
LifePoint	✓	
Riverside	✓	✓
Sentara	✓	✓
Valley	✓	✓
Wellmont	✓	
UVA	✓	✓
VCU/MCV	✓	✓

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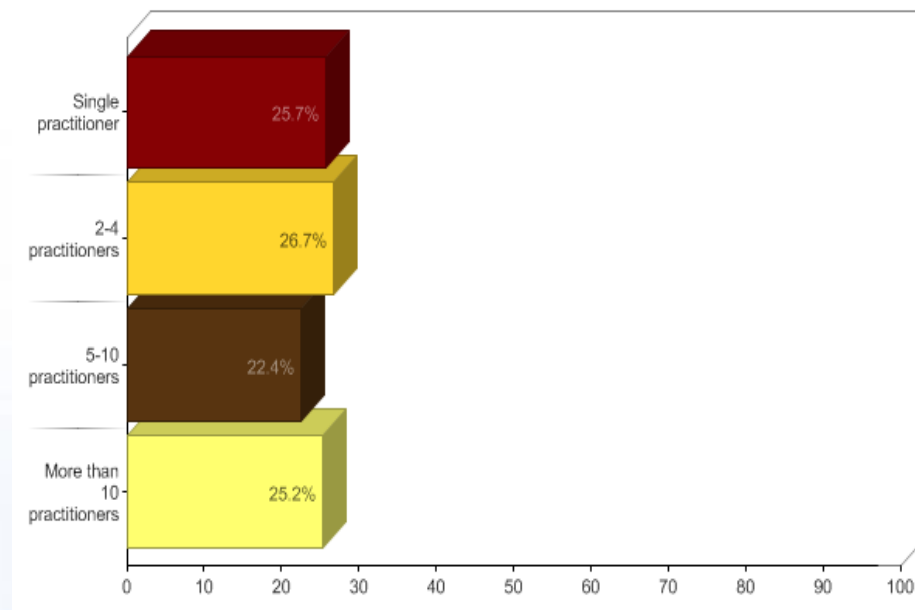TECHNOLOGY PARTNERS

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Physician Participation

- Physicians participating in the survey are largely independent, with the remaining 30% owned by, or affiliated with, a major health system

- A wide range of physician practice sizes are represented, with an even distribution between small and large practices

- Rural physicians are also represented, with slightly more than 25% located in Rural or Mixed Rural counties (per the Isserman definition)

How would you characterize the practice's affiliation?

Affiliation	Percentage
Owned by a health system	20.0%
Affiliated with a health system	7.3%
Independent	72.7%

n=205

How would you characterize the size of the location/practice?

Size	Percentage
Single practitioner	25.7%
2-4 practitioners	26.7%
5-10 practitioners	22.4%
More than 10 practitioners	25.2%

n=210

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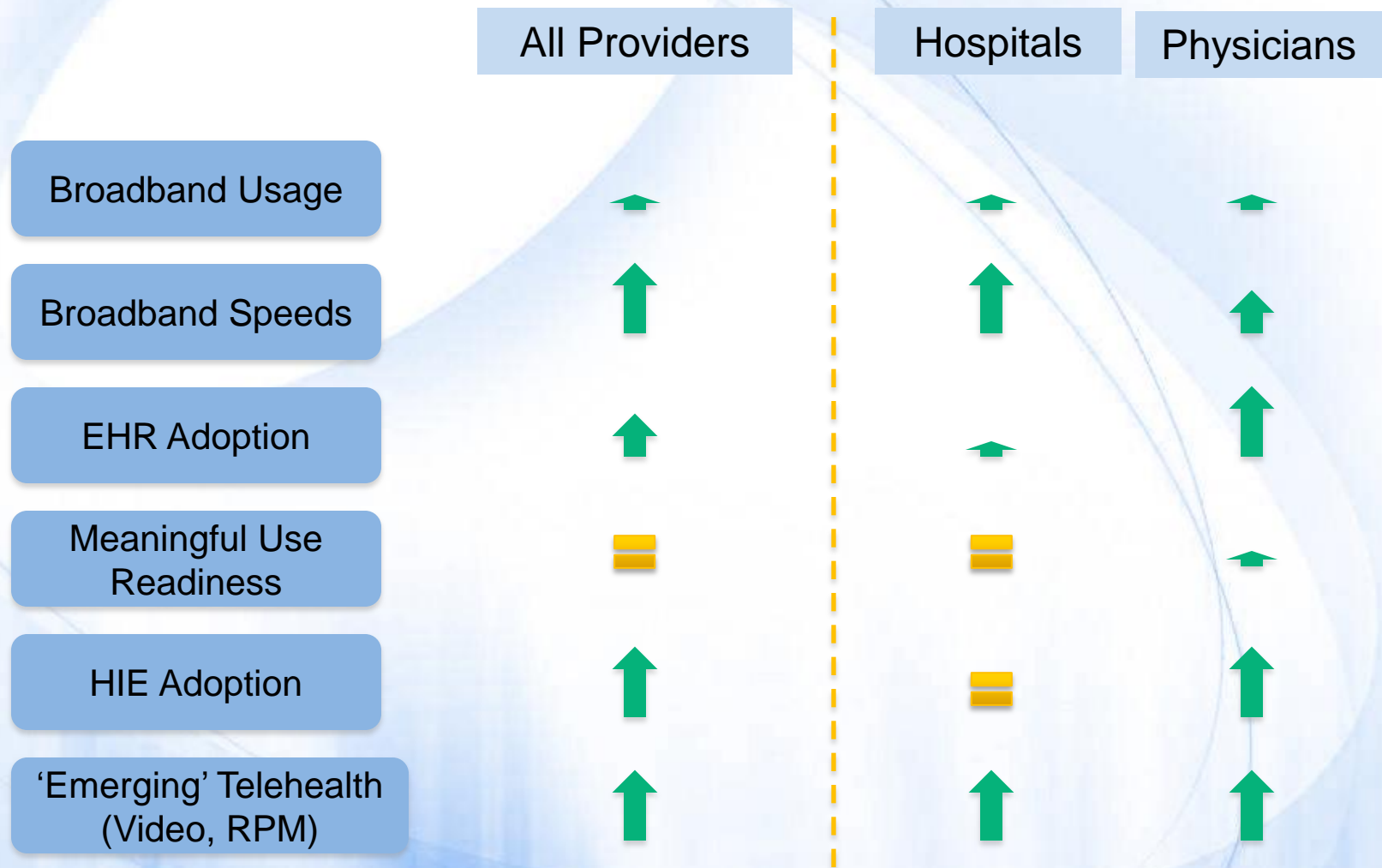CENTER FOR INNOVATIVE TECHNOLOGY

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Summary Insights: All Providers

- Providers in the Commonwealth believe broadband is critical for Health IT priorities, and most segments have substantial broadband capability

    - Fiber most common, followed by Cable and DSL

    - Broadband speeds across key segments have increased substantially

- Adoption of Electronic Health Records continues to grow steadily

    - Significant progress in physician population, with overall population growing as well

- Anticipated readiness to meet Meaningful Use requirements by 2015, while still high, has leveled, most likely due to new criteria that have been communicated

- Participation in Health Information Exchange has increased significantly, due to increased attention to EHR adoption and Meaningful Use requirements, especially in the physician population

- Telehealth is still in early stages of adoption but nearly 50% of providers expect to be using Telehealth services within 3 years

    - Use of both Video Consultation and Remote Patient Monitoring services is increasing

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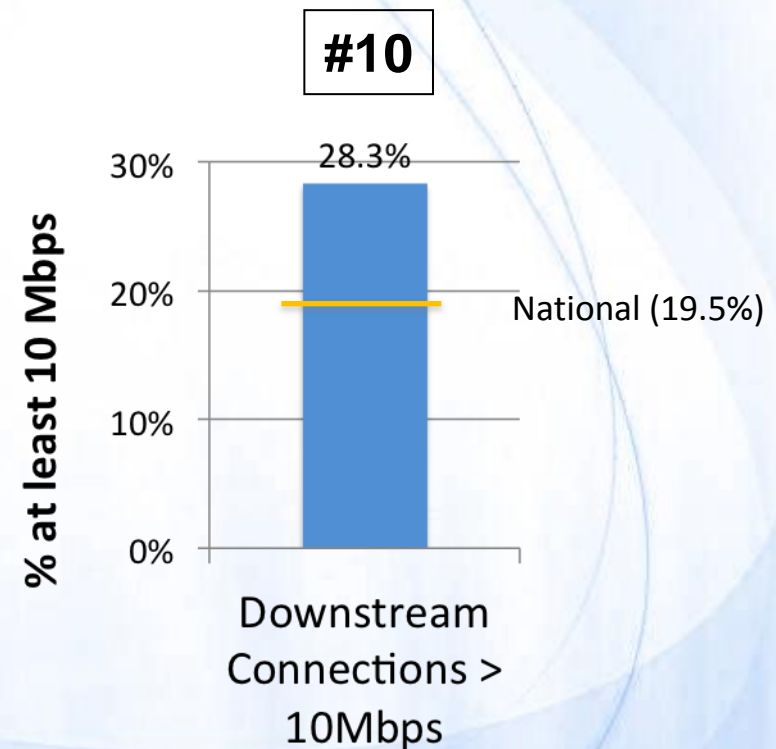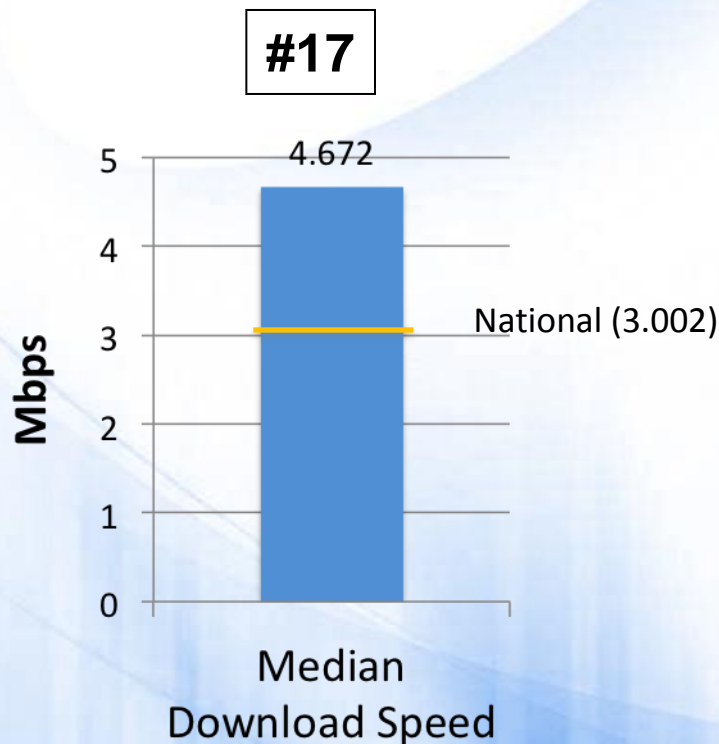CENTER FOR INNOVATIVE TECHNOLOGY

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2010 to 2011: Changes in Key Metrics

	All Providers	Hospitals	Physicians
Broadband Usage	↑	↑	↑
Broadband Speeds	⬆	⬆	⬆
EHR Adoption	⬆	↑	⬆
Meaningful Use Readiness	=	=	↑
HIE Adoption	⬆	=	⬆
'Emerging' Telehealth (Video, RPM)	⬆	⬆	⬆

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Broadband Benchmarks: Virginia vs. U.S.

■ At the end of 2010, Virginia ranked in the top third (#17) against other U.S. states in median Broadband Download Speed

■ Virginia ranked more highly (#10), however, with respect to % of Connections that exceeded 10Mbps, indicating higher-quality connections to support key sectors like Healthcare

Commonwealth of Virginia : Broadband Benchmarks (2010)

Virginia National Ranking:

#17

Median Download Speed

- 4.672
- National (3.002)
- Mbps axis: 0, 1, 2, 3, 4, 5

#10

Downstream Connections > 10Mbps

- 28.3%
- National (19.5%)
- % at least 10 Mbps axis: 0%, 10%, 20%, 30%

Source: *Speed Matters*, 2010; FCC Internet Access Services, October 2011

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Hospital EHR Benchmarks: Virginia vs. U.S.

■ Virginia ranks highly (#5) against other U.S. states in hospital adoption of Electronic Medical Records

Commonwealth of Virginia Hospitals:
EMR Adoption Model Score (Q3, 2011)

Virginia
National Ranking:

#5

Atlantic South Region (3.38)
National (3.14)

3.97

Mean EMR Adoption Score
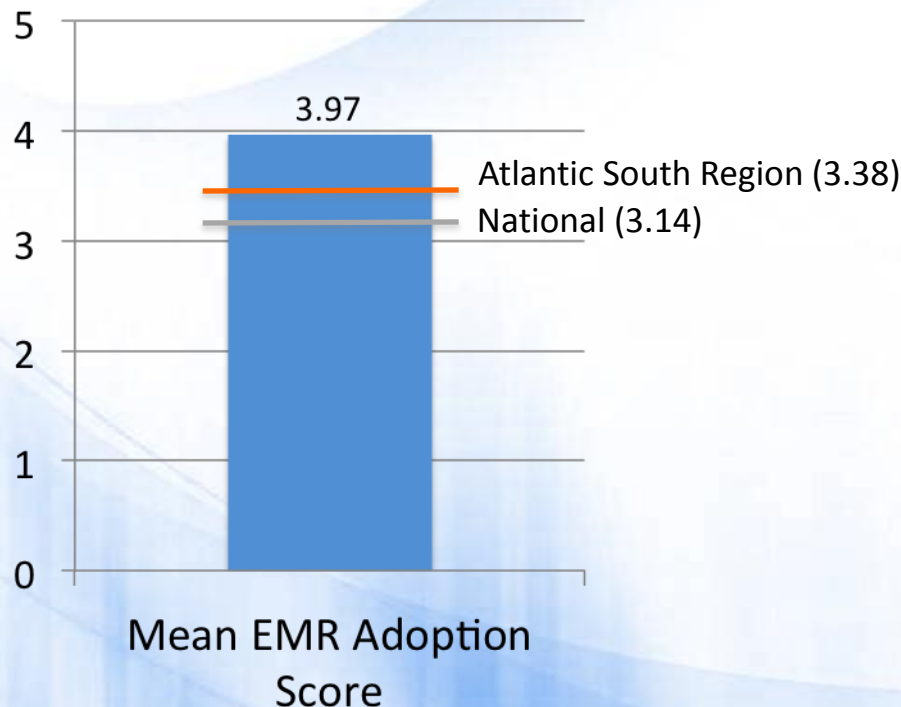
Source: HIMSS Analytics, Q3 2011

US EMR Adoption Model[SM]

Stage	Cumulative Capabilities	2011 Q2	2011 Q3
Stage 7	Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP	1.1%	1.1%
Stage 6	Physician documentation (structured templates), full CDSS (variance & compliance), full R-PACS	4.0%	4.4%
Stage 5	Closed loop medication administration	6.1%	7.1%
Stage 4	CPOE, Clinical Decision Support (clinical protocols)	12.3%	13.2%
Stage 3	Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology	46.3%	46.1%
Stage 2	CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable	13.7%	12.6%
Stage 1	Ancillaries - Lab, Rad, Pharmacy - All Installed	6.6%	5.9%
Stage 0	All Three Ancillaries Not Installed	10.0%	9.6%

Data from HIMSS Analytics[TM] Database © 2011   N = 5,310   N = 5,299

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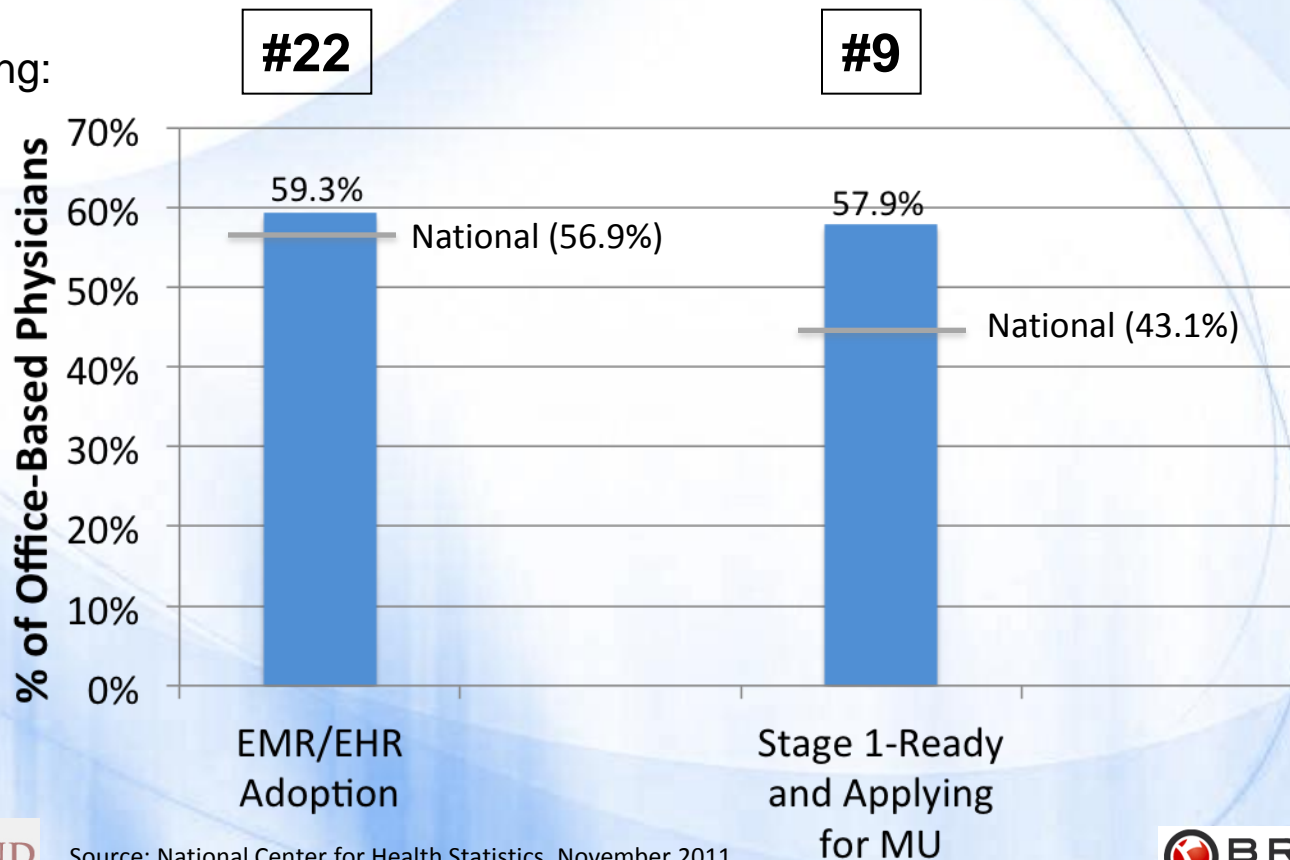CENTER FOR INNOVATIVE TECHNOLOGY

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Physician EHR Benchmarks: Virginia vs. U.S.

- For physician EMR adoption, the Commonwealth ranks in the middle of U.S. states, at a rate close to the national average

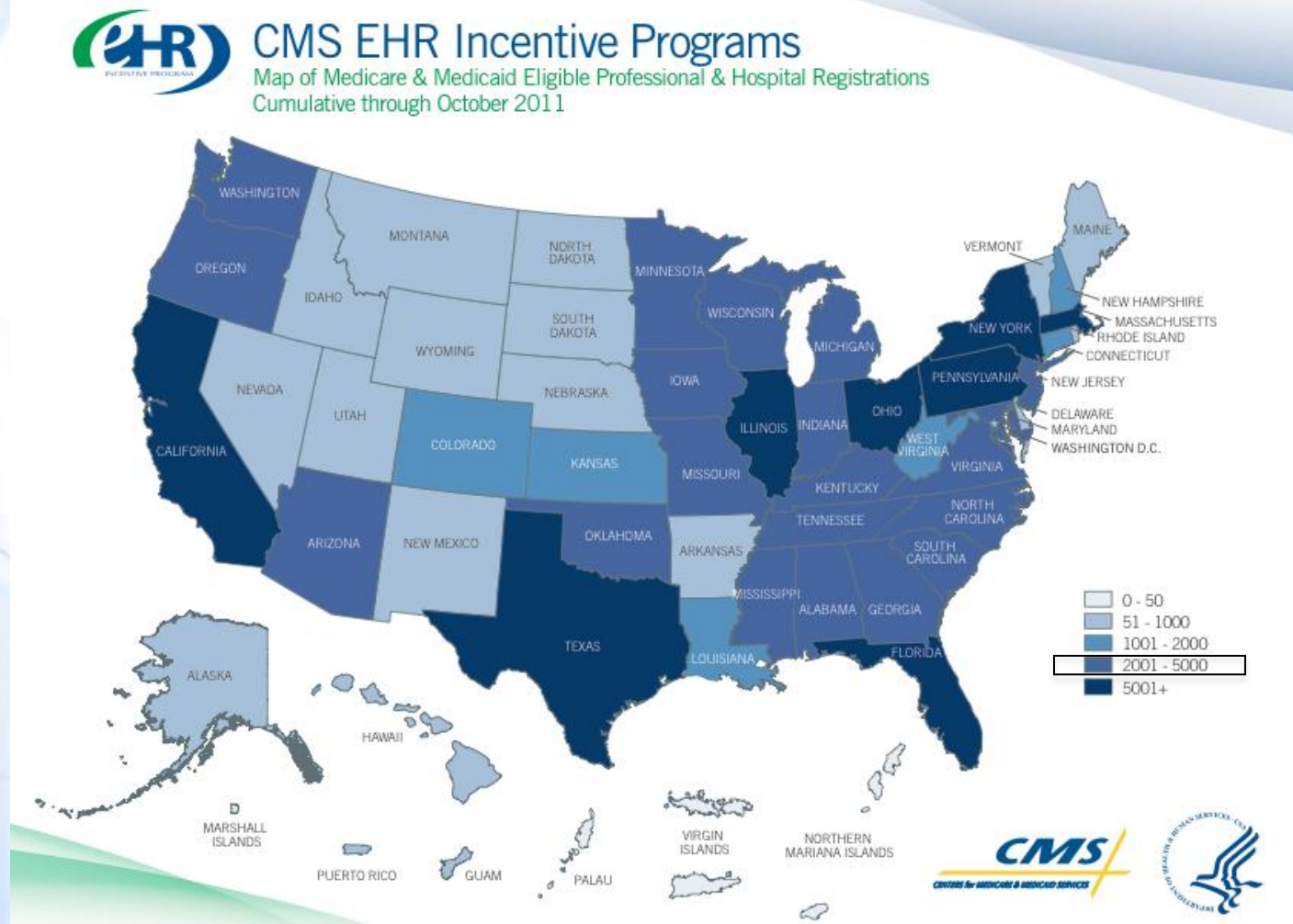- Virginia ranks higher (#9), however, in physicians' Meaningful Use readiness

Commonwealth of Virginia Physicians:
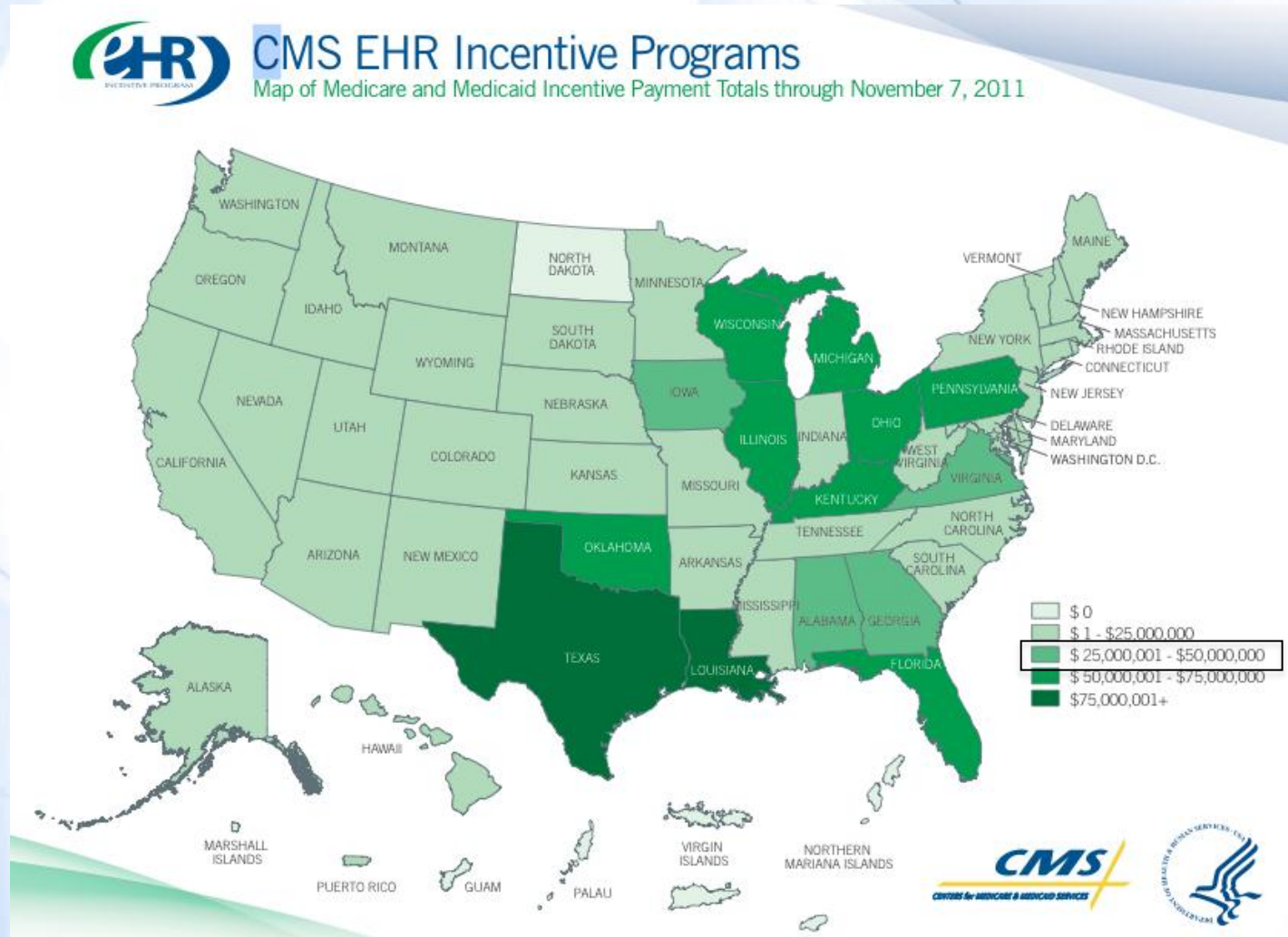### EHR Adoption and Stage 1 Meaningful Use Readiness (2010)

Virginia
National Ranking:

#22   **#9**

Chart: % of Office-Based Physicians

- EMR/EHR Adoption: 59.3% — National (56.9%)
- Stage 1-Ready and Applying for MU: 57.9% — National (43.1%)

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EHR Incentive Applications by Eligible Providers

- The Commonwealth ranks in the top third of U.S. states in applications submitted by eligible providers for EHR incentive payments (as of October 2011)

CMS EHR Incentive Programs
Map of Medicare & Medicaid Eligible Professional & Hospital Registrations
Cumulative through October 2011

Legend:
- 0 - 50
- 51 - 1000
- 1001 - 2000
- 2001 - 5000
- 5001+

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EHR Incentive Payments to Eligible Providers

- Virginia is also one of the top-ranked states (#14) in EHR incentive payments made to eligible applicants

CMS EHR Incentive Programs
Map of Medicare and Medicaid Incentive Payment Totals through November 7, 2011

Legend:
- $0
- $1 - $25,000,000
- $25,000,001 - $50,000,000
- $50,000,001 - $75,000,000
- $75,000,001+

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EHR Benchmarks: e-Prescribing

- As physicians and pharmacies continue to adopt and adapt EHR capabilities, key components of Meaningful Use, such as e-Prescribing metrics, improve as well

Commonwealth of Virginia : E-Prescribing Metrics (2008-10)
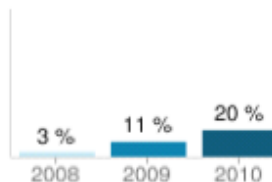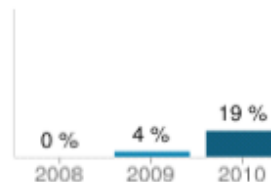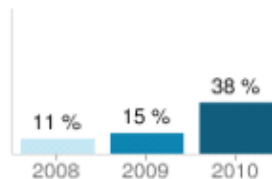
HIE Benchmarks

- The Commonwealth received more than $11.5m to help create a state-wide Health Information Exchange, which was awarded to Community Health Alliance in the fall

State HIE Awards > $10m

| State/SDE	Award
California Health and Human Services Agency	$38,752,536
Texas Health and Human Services Commission	$28,810,208
New York eHealth Collaborative Inc.	$22,364,782
Agency of Health Care Administration (FL)	$20,738,582
Illinois Department of Health care and Family Services	$18,837,639
Governor's Office of Health Care Reform Commonwealth of Pennsylvania	$17,140,446
Michigan Department of Health	$14,993,085
Ohio Health Information Partnership LLC	$14,872,199
Missouri Depart of Social Services	$13,765,040
Georgia Department of Community Health*	$13,003,003
North Carolina Department of State Treasurer*	$12,950,860
State of Tennessee	$11,664,580
Virginia Department of Health	$11,613,537
New Jersey Health Care Facilities Financing Authority	$11,408,594
Health Care Authority (Washington)	$11,300,000
Massachusetts Technology Park Corporation*	$10,599,719
Louisiana Health Care Quality Forum	$10,583,000
Alabama Medicaid Agency	$10,564,789
State of Mississippi	$10,387,000
Indiana Health Information Technology, Inc.*	$10,300,000

Source: http://healthit.hhs.gov, State Health Information Exchange Cooperative Agreement Program

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Telehealth Benchmarks

■ The Commonwealth was ahead of the U.S. national average in hospital use of telehealth in 2011, but somewhat lower in physician use

Commonwealth of Virginia : Use of Telehealth Services (2011)
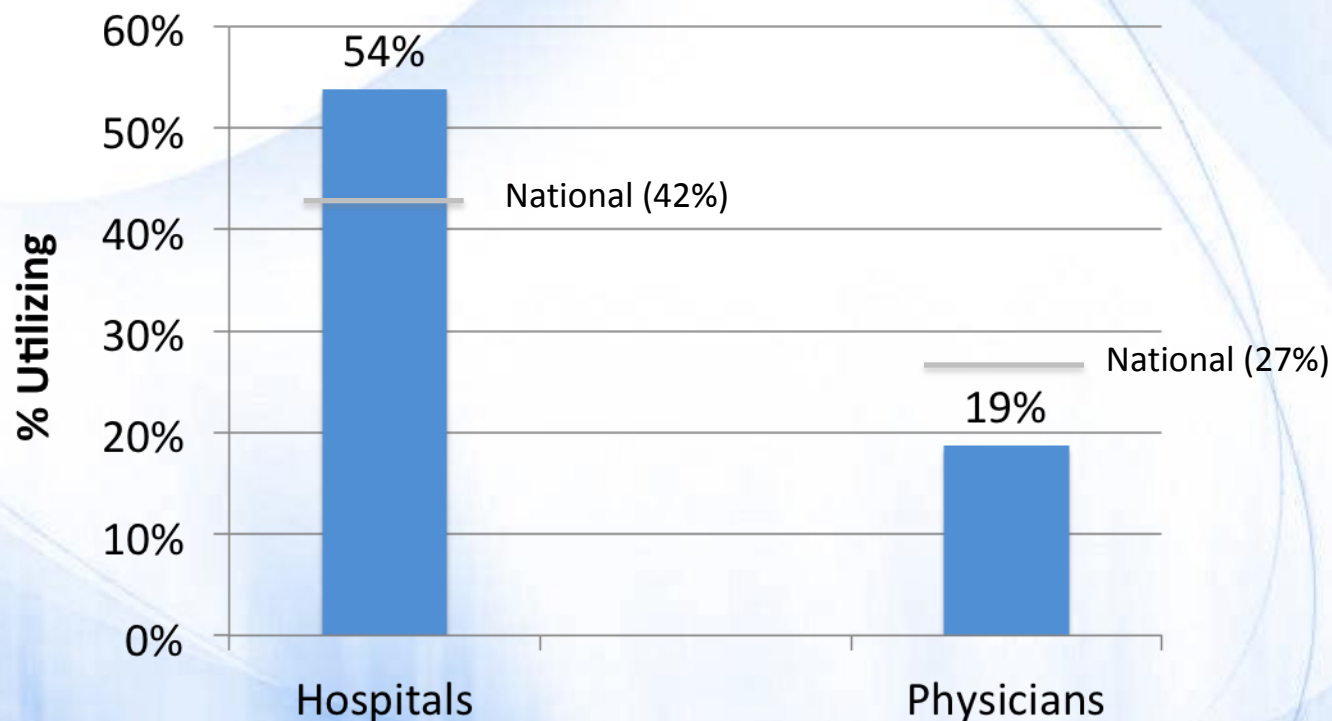
Source: COV 2011 Broadband/HIT Survey; National data sourced from *Hospitals and Health Networks* Most Wired 2011 survey.

Summary Implications

- Broadband continues to be well-deployed in the Commonwealth, supporting key Health IT priorities

- EHR adoption has accelerated in anticipation of achieving Meaningful Use incentives, and appears to have increased significantly in the physician community since 2010

- Eligible providers largely believe they are on track to achieve Meaningful Use objectives and incentives

- HIE awareness and participation is clearly increasing, most likely in conjunction with increased EHR adoption
  - Statewide HIE award will help to accelerate progress

- Increasingly favorable regulatory environment for Telehealth, both in Virginia and at a national level, promises increased focus and adoption similar to EHR
  - Numerous providers are actively pursuing local Telehealth initiatives that support care coordination, lower hospital readmissions, and improved patient access to specialty care in response to regulation changes and major new funding from CMS, NIH, others

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Future Research Priorities

- Expanding survey participation with additional key segments

  - Pharmacies

  - Assisted Living

  - Nursing Homes

- Tracking statewide HIE development and its impact on other HIT adoption and utilization rates

- Creating Telehealth benchmarks and comparisons with other states in the Mid-Atlantic region and nationally
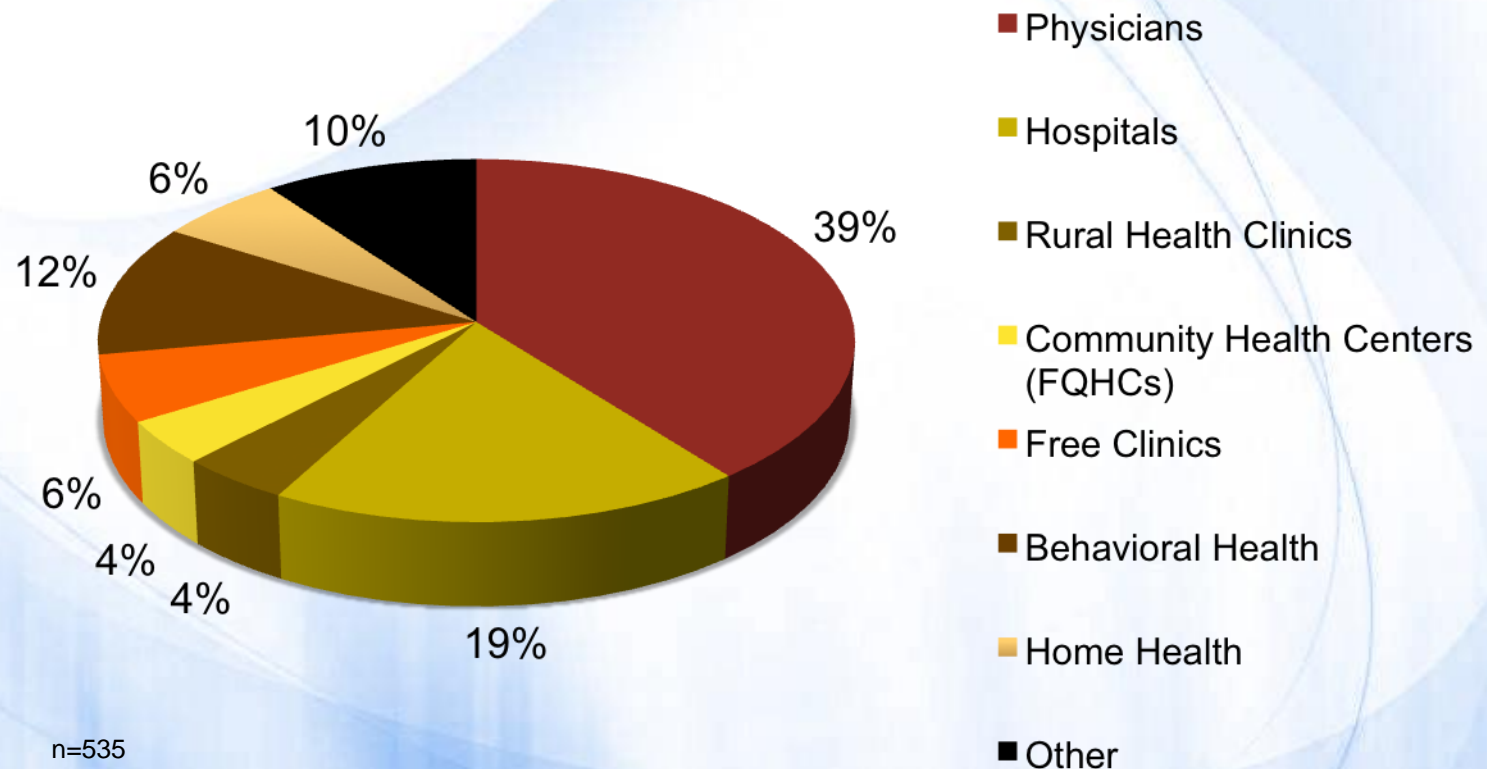
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Detailed Analysis:
All Providers 2011

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Summary Insights: All Providers

- Providers in the Commonwealth believe broadband is critical for Health IT priorities, and most segments have substantial broadband capability

  – Fiber most common, followed by Cable and DSL

  – Broadband speeds across key segments have increased substantially

- Adoption of Electronic Health Records continues to grow steadily

  – Significant progress in physician population, with overall population growing as well

- Anticipated readiness to meet Meaningful Use requirements by 2015, while still high, has leveled, most likely due to new criteria that have been communicated

- Participation in Health Information Exchange has increased significantly, due to increased attention to EHR adoption and Meaningful Use requirements, especially in the physician population

- Telehealth is still in early stages of adoption but nearly 50% of providers expect to be using Telehealth services within 3 years

  – Use of both Video Consultation and Remote Patient Monitoring services is increasing

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Survey Demographics: All Providers

- Provider participation was significant in hospital and physician populations, with additional support from Rural, Community, and Free clinics and behavioral and home health providers

- Rural providers are well-represented, with approximately 30% located in Rural or Mixed Rural counties (per the Isserman definition)

Legend:
- Physicians
- Hospitals
- Rural Health Clinics
- Community Health Centers (FQHCs)
- Free Clinics
- Behavioral Health
- Home Health
- Other

Pie chart values: 39%, 19%, 4%, 4%, 6%, 12%, 6%, 10%

n=535

Note: Other category includes Nursing Home, Assisted Living, Pharmacy, EMS, and State and Local Health Agency respondents

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Broadband Usage by Type of Service

- Nearly all providers surveyed report using some form of broadband

- Fiber/Dedicated Internet Access is the most common type of service at about 50% of providers, with DSL (Digital Subscriber Line) and Cable divided relatively equally across the remainder

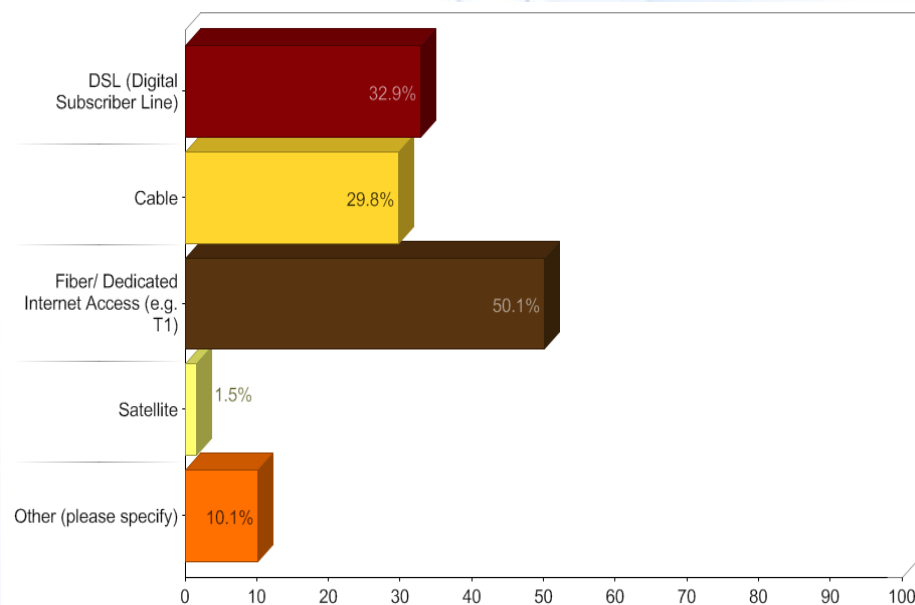- A number of providers report using multiple modes of broadband service, particularly in the hospital segment

Q1. Does your healthcare location utilize broadband (i.e. high-speed) internet service?
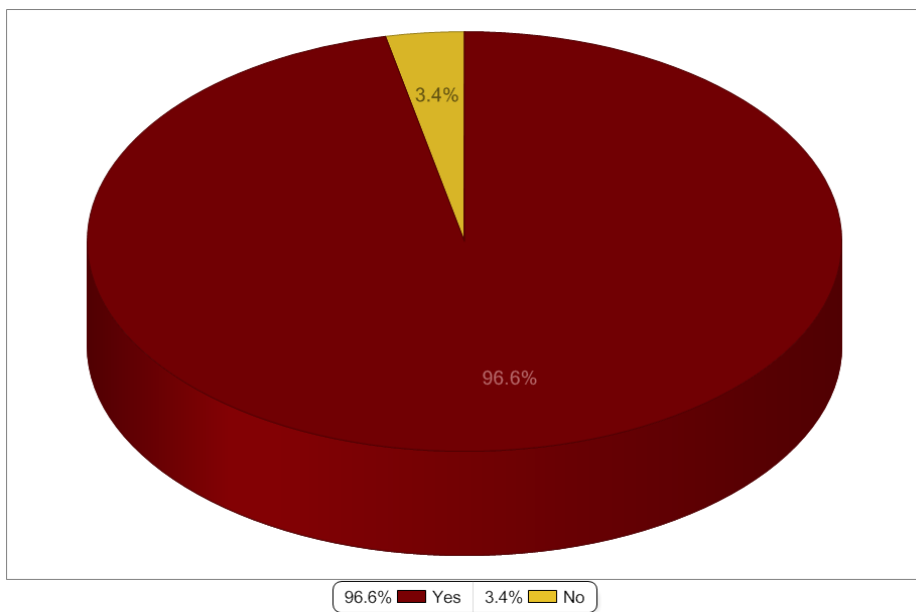
| 96.6% | Yes | 3.4% | No |

- 3.4%
- 96.6%

n=535

Broadband Service: High-speed Internet access (e.g. DSL, Cable, Fiber, etc) providing two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users. (definition per National Telecommunications Information Administration)

Q2. What type of broadband service does your healthcare location utilize: (CHECK ALL THAT APPLY)

Type	Percentage
DSL (Digital Subscriber Line)	32.9%
Cable	29.8%
Fiber/ Dedicated Internet Access (e.g. T1)	50.1%
Satellite	1.5%
Other (please specify)	10.1%

n=517. Note that percentages add up to more than 100% because multiple responses were allowed

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2011 Reported Broadband Speeds

- Overall, broadband speeds have increased by 25-30%, and have increased significantly in hospital and physician segments

Broadband Speed by Provider Type

Provider Type	Download	Upload
Overall	23.0	15.4
Hospitals	34.0	29.0
Physicians	17.2	10.9
FQHC/RHCs	11.4	6.4
Free Clinics	11.4	5.0
Behavioral Health	19.0	12.9
Home Health	11.1	5.8

Speed in Mbps

n= 288

Broadband Service: High-speed Internet access (e.g. DSL, Cable, Fiber, etc) providing two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users. (definition per National Telecommunications Information Administration)
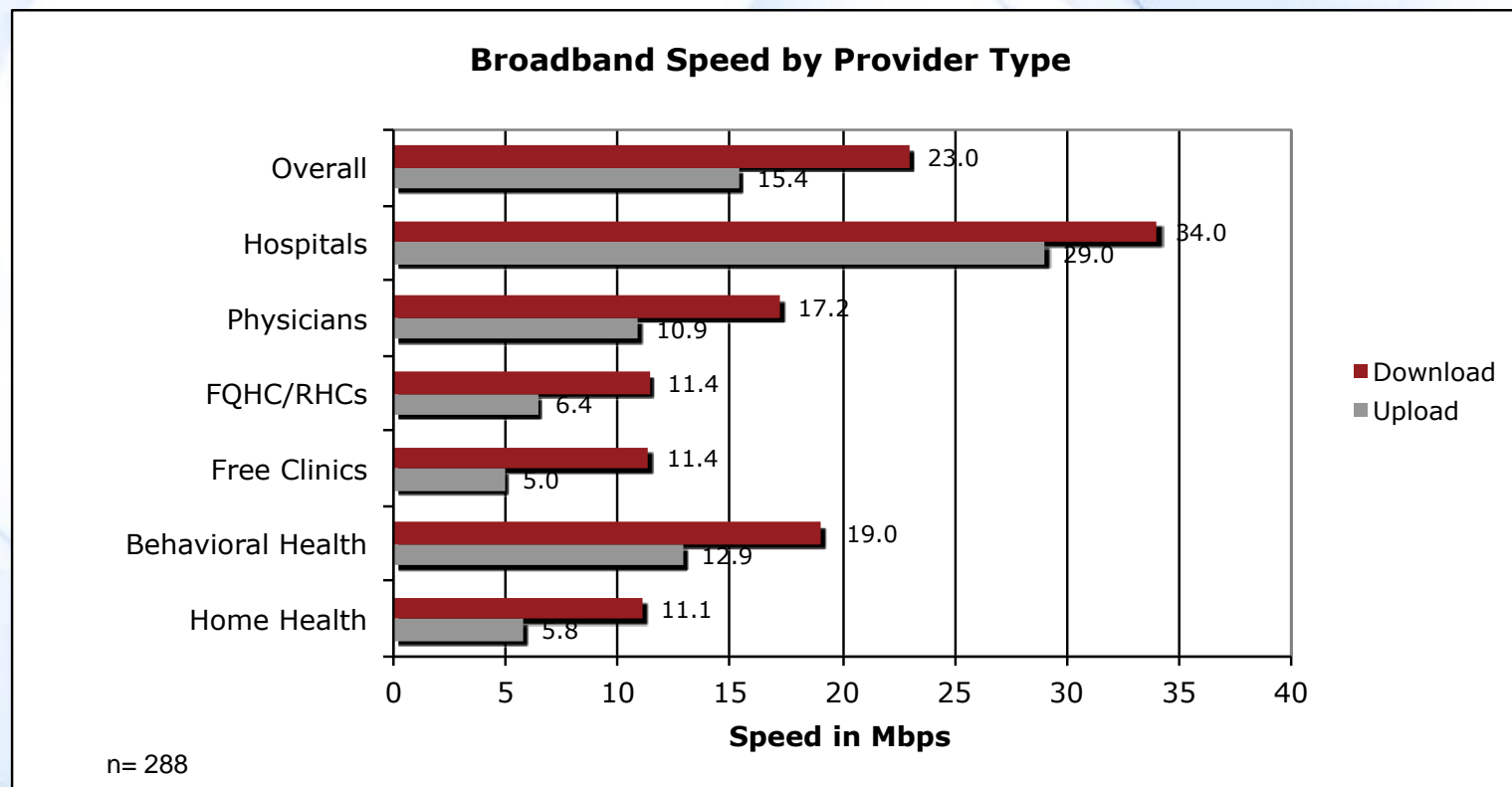
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Importance of Broadband for Health IT

- Broadband connectivity is clearly most important for providers' Electronic Health Record priorities, as well as for basic E-mail and Internet search

- Broadband is perceived to be significantly less important for Telehealth

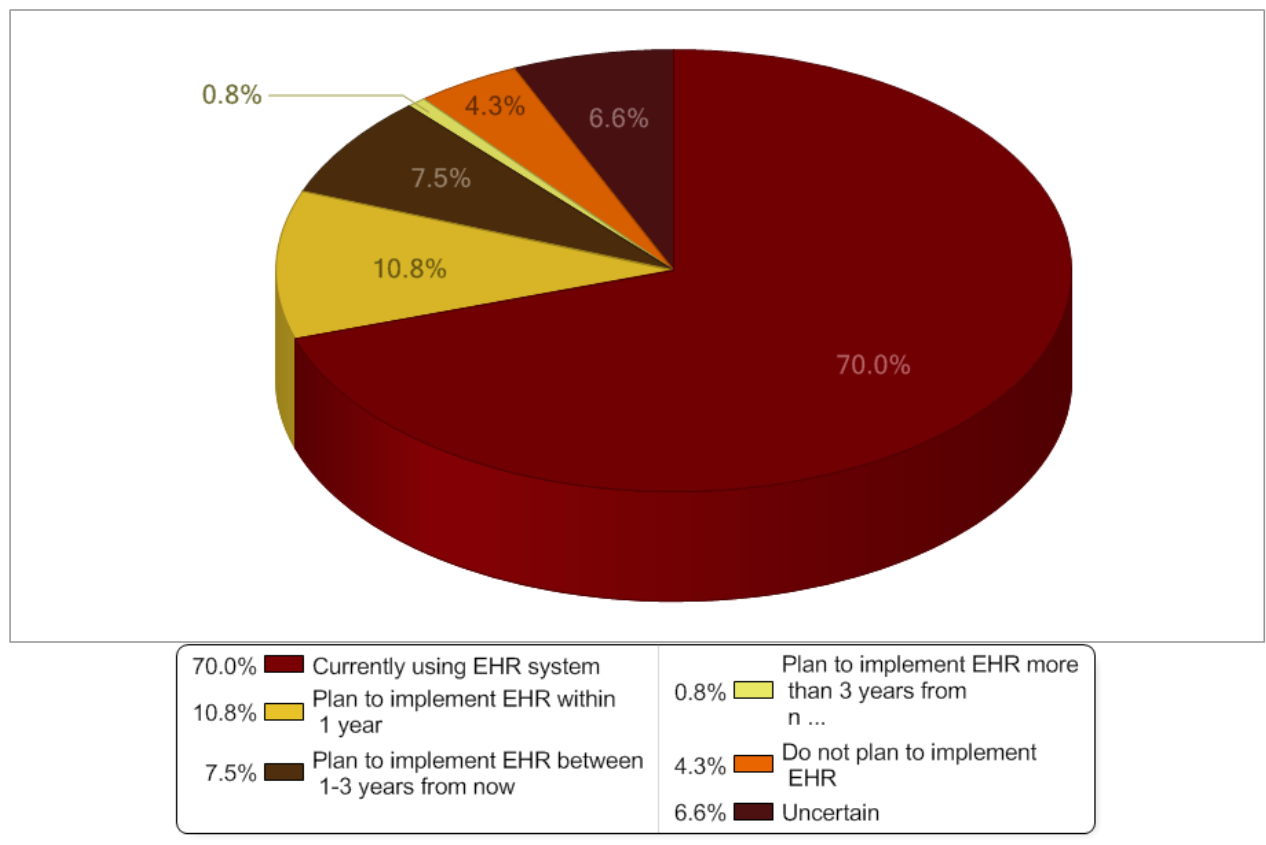*Q5. For which of the following functions is broadband connectivity MOST essential?*
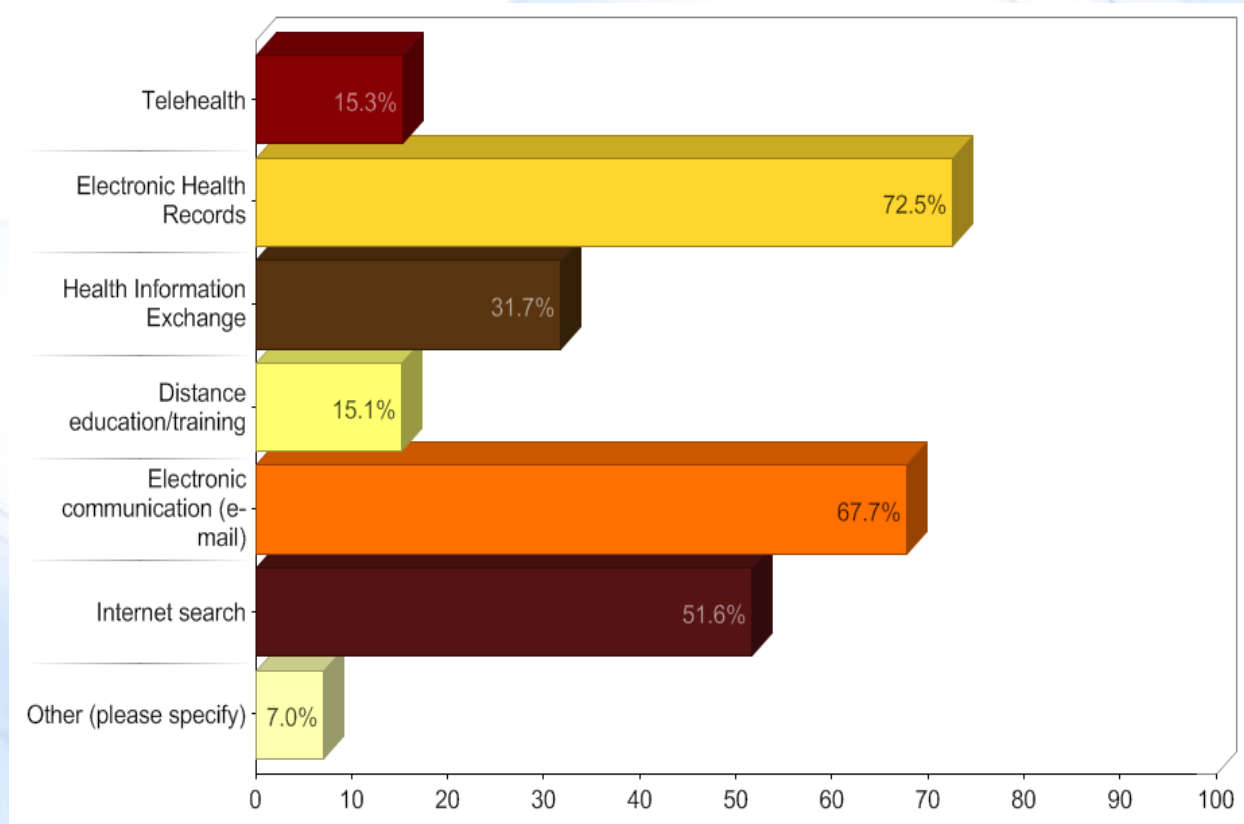
n=517

Electronic Health Records Utilization

- 70% of respondents are currently utilizing an Electronic Health Records (EHR) system at their location; this figure reflects an improvement from 66% in 2010

- **Expected implementation of EHR systems within 3 years is close to 90%**

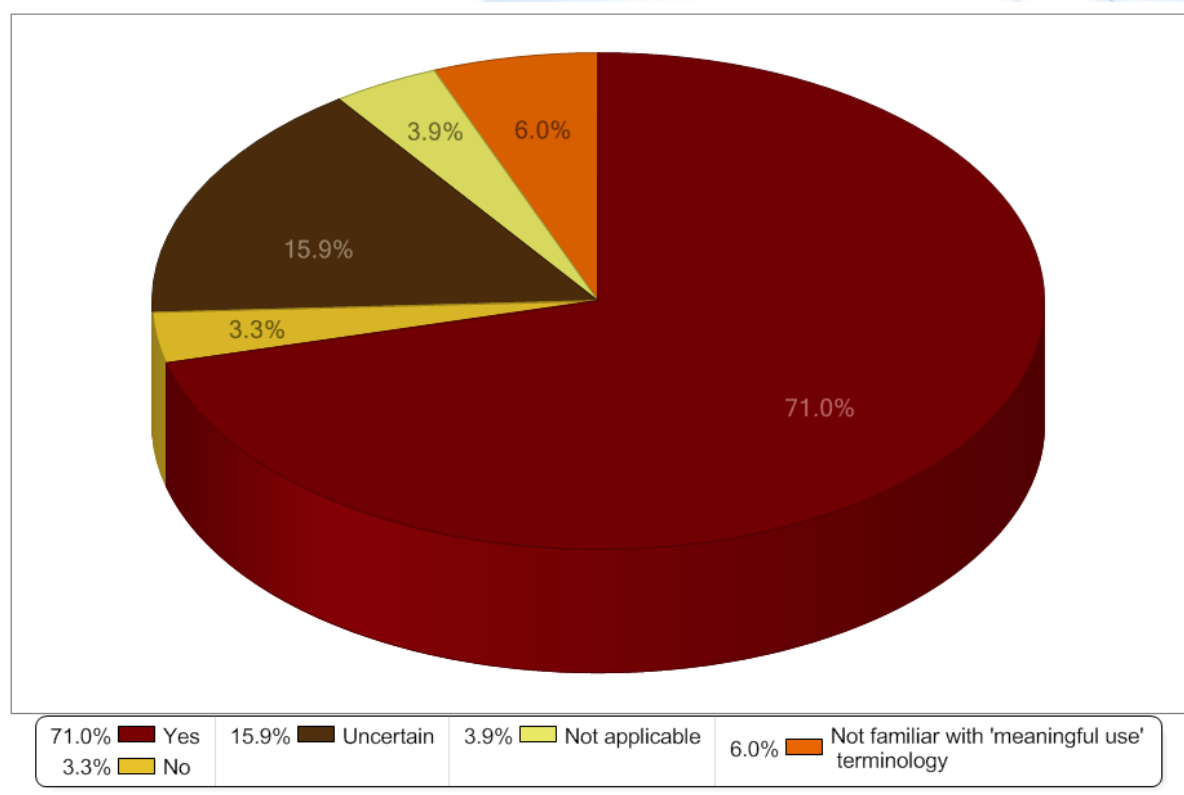*Q8. How would you characterize your use of an Electronic Health Record (EHR) system?*

70.0% ■ Currently using EHR system		Plan to implement EHR more
10.8% ■ Plan to implement EHR within 1 year	0.8% □	than 3 years from n ...
7.5% ■ Plan to implement EHR between 1-3 years from now	4.3% ■	Do not plan to implement EHR
	6.6% ■	Uncertain

n=517

Electronic Health Records: digital records of patient health information generated by one or more encounters in any care delivery setting.

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EHR Implementation and Meaningful Use

- More than 70% of responding providers believe they will meet U.S. Department of Health and Human Services' criteria for 'meaningful use' of an EHR system by 2015

- This figure is marginally lower than in 2010, with more providers in the 'Uncertain' category

Q9. Do you expect to meet the Department of Health and Human Services criteria for 'meaningful use' of an EHR system in all stages by 2015?
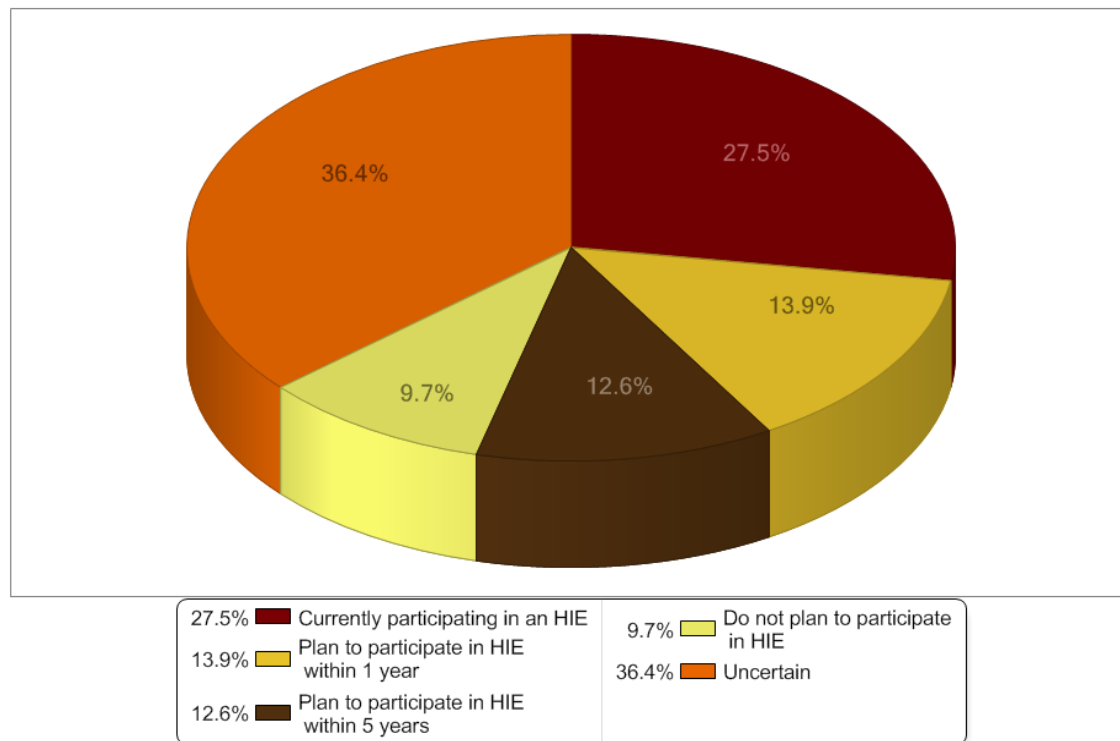

| 71.0% | Yes | 15.9% | Uncertain | 3.9% | Not applicable | 6.0% | Not familiar with 'meaningful use' terminology |
| 3.3% | No | | | | | | |

Pie chart values: 71.0%, 15.9%, 3.9%, 6.0%, 3.3%

n=517

Health Information Exchange Participation

- Between 25-30% of responding providers are participating in Health Information Exchange (HIE) in the Commonwealth, and more than 50% expect to participate within 5 years

- **This is a significant increase from last year's 17%, reflecting both increased emphasis on EHR planning and integration**

Q10. Does your location currently participate with other healthcare providers in a Health Information Exchange (HIE)?

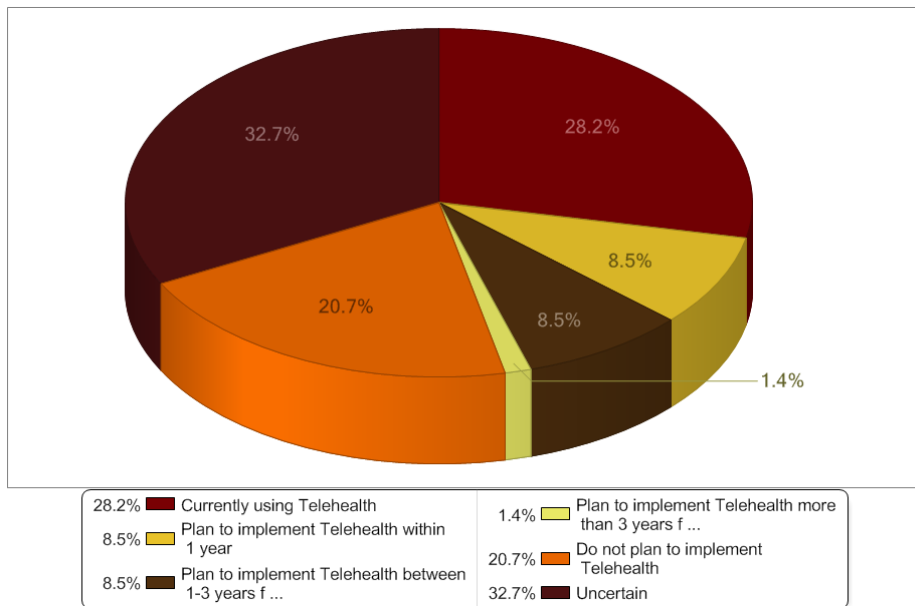|			
27.5%	Currently participating in an HIE	9.7%	Do not plan to participate in HIE
13.9%	Plan to participate in HIE within 1 year	36.4%	Uncertain
12.6%	Plan to participate in HIE within 5 years		

n=517
Health Information Exchange: a network characterized by the reliable and secure transmission, access, and retrieval of healthcare-related data among diverse facilities, health information organizations (HIOs) and government agencies according to national standards.

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Telehealth Usage and Key Services

- **Close to 30% of responding providers are actively using Telehealth now, but nearly half expect to be using Telehealth within 3 years**

- The leading Telehealth technology utilized continues to be Store-and-Forward, but Video and Remote Patient Monitoring are increasingly utilized as compared with 2010

Q6. How would you characterize your location's use of Telehealth services?

Q7. Which of the following Telehealth services do you utilize? (CHECK ALL THAT APPLY)

%	Category
28.2%	Currently using Telehealth
8.5%	Plan to implement Telehealth within 1 year
8.5%	Plan to implement Telehealth between 1-3 years f ...
1.4%	Plan to implement Telehealth more than 3 years f ...
20.7%	Do not plan to implement Telehealth
32.7%	Uncertain

n=517

Telehealth: the use of advanced telecommunications to aid in the clinical practice of medicine, using technologies that enable video consultation, remote monitoring, and store-and-forward image transmission over fixed or mobile networks.

- Video consultations: 52.8%
- Remote patient monitoring: 37.5%
- Store-and-forward image transmission (e.g. telerad ...): 61.1%
- Other (please specify): 9.0%
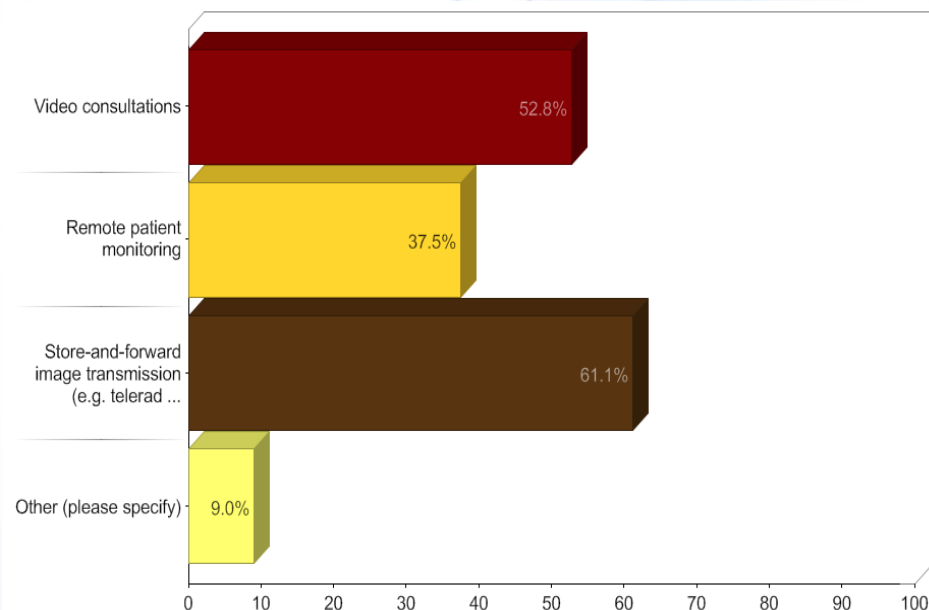
n=145. Note that percentages add up to more than 100% because multiple responses were allowed

Detailed Provider Analysis: Hospitals 2011

Broadband Usage by Type of Service

- <u>All</u> hospital respondents report the use of some of broadband, and speeds are significantly higher than other provider segments

- Fiber/Dedicated Internet Access is the most common type of service at more than 75% of hospitals, with DSL (Digital Subscriber Line) and Cable also utilized

Q2. What type of broadband service does your healthcare location utilize: (CHECK ALL THAT APPLY)

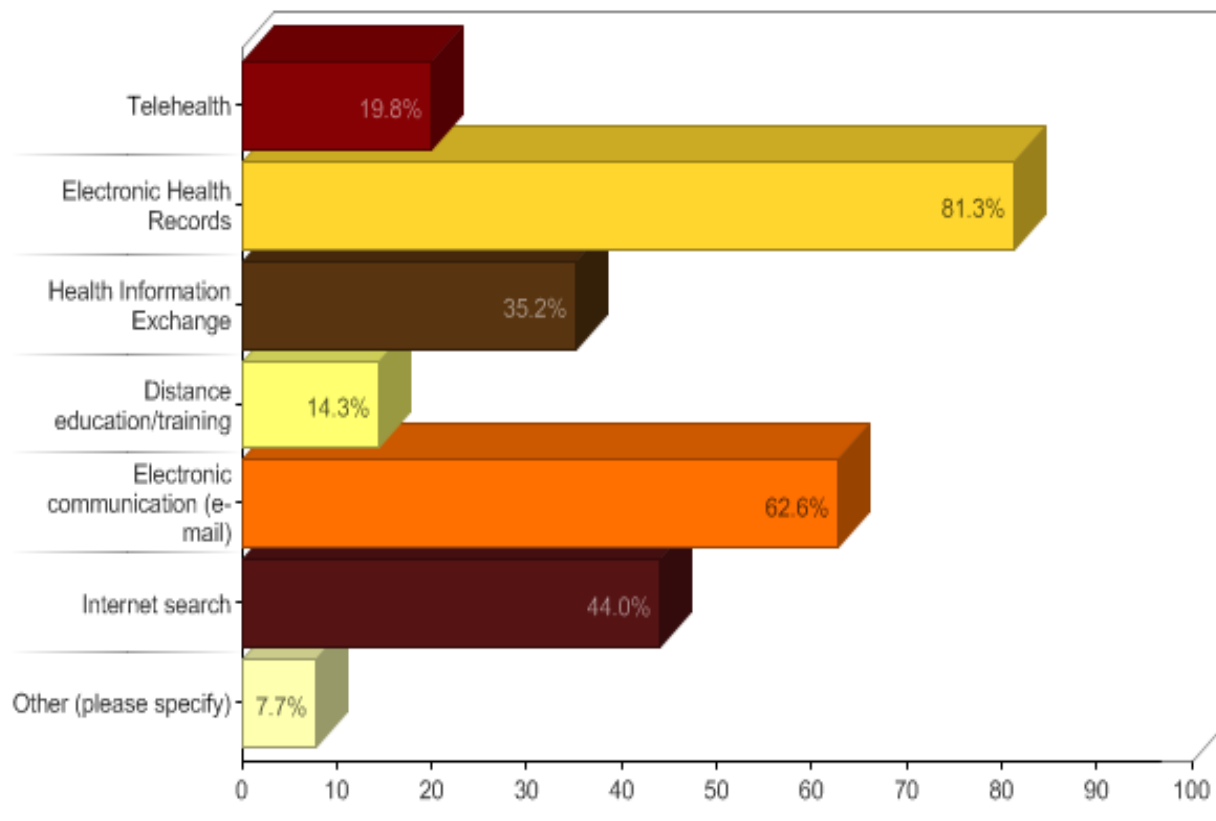| Type	Percent
DSL (Digital Subscriber Line)	20.9%
Cable	24.2%
Fiber/ Dedicated Internet Access (e.g. T1)	76.9%
Other (please specify)	15.4%
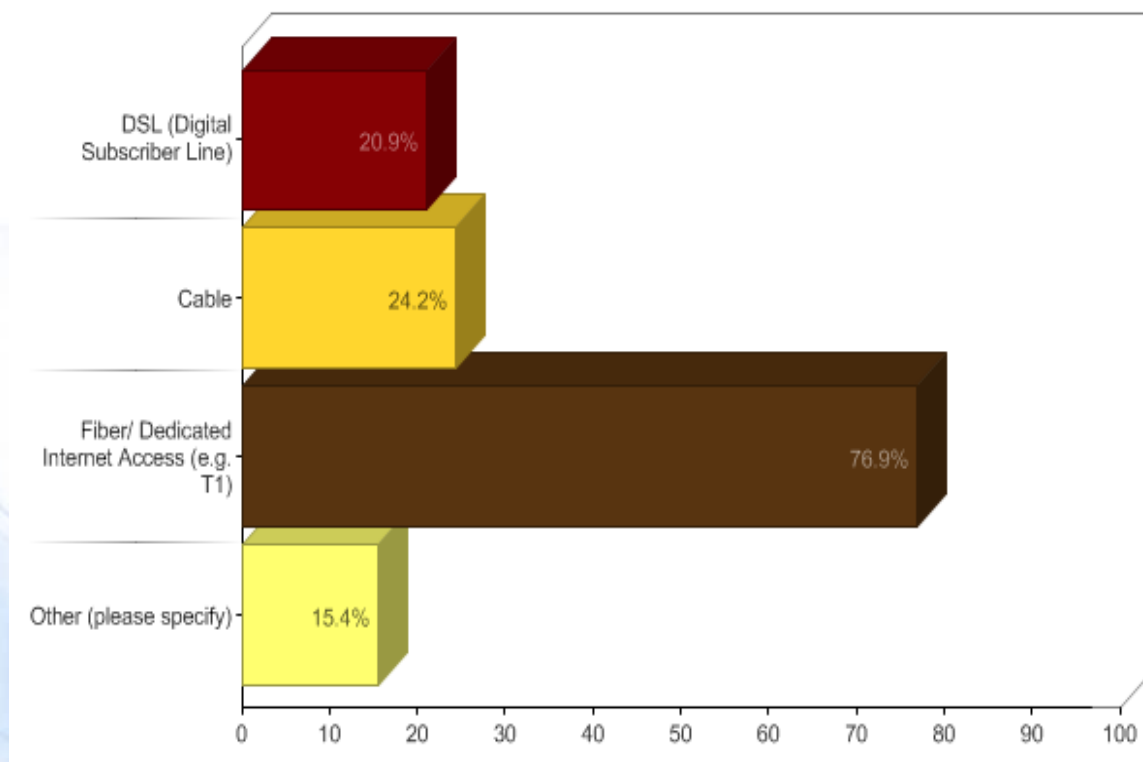
Broadband Service: High-speed Internet access (e.g. DSL, Cable, Fiber, etc) providing two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users. (definition per National Telecommunications Information Administration)

n=91. Note that percentages add up to more than 100% because multiple responses were allowed

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Importance of Broadband for Health IT

- Broadband connectivity is clearly most important for hospitals' Electronic Health Record priorities, as well as for basic E-mail and Internet search

- Broadband is perceived as significantly less important for Telehealth

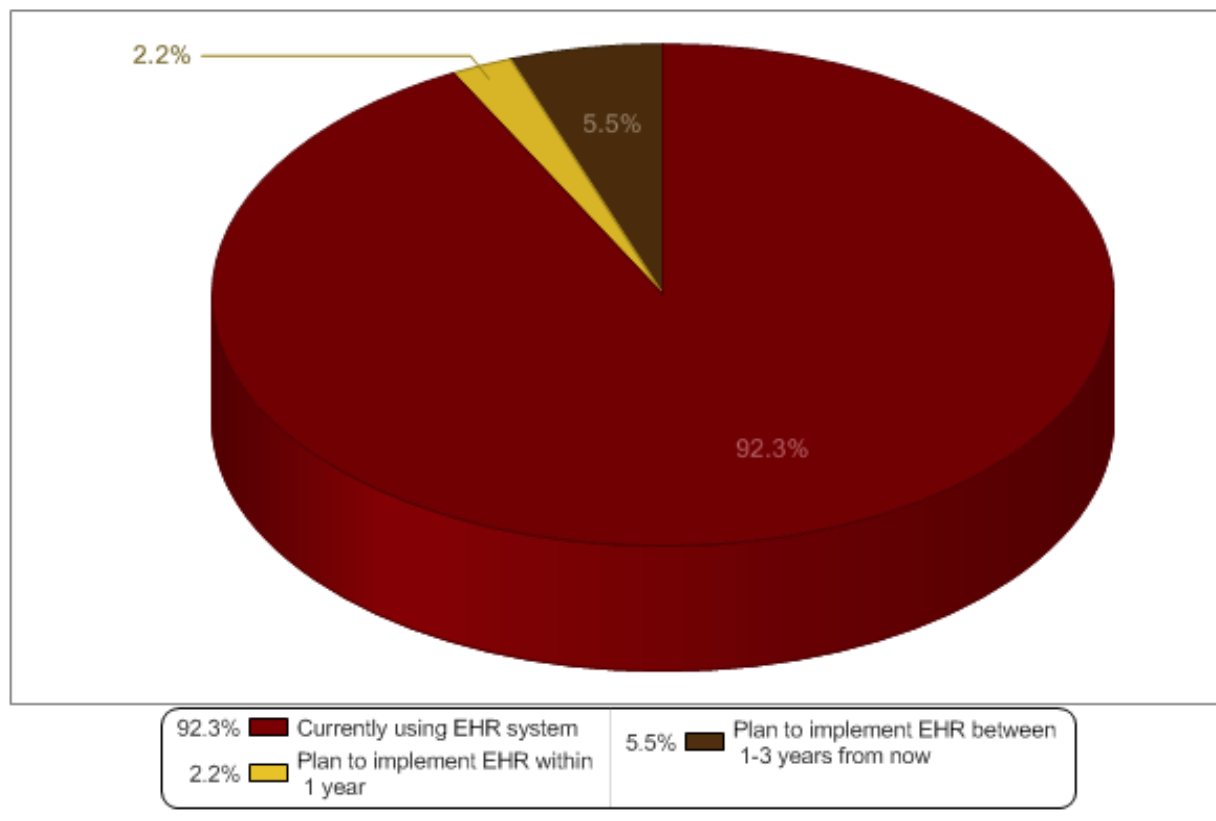*Q5. For which of the following functions is broadband connectivity MOST essential?*

Function	Percentage
Telehealth	19.8%
Electronic Health Records	81.3%
Health Information Exchange	35.2%
Distance education/training	14.3%
Electronic communication (e-mail)	62.6%
Internet search	44.0%
Other (please specify)	7.7%

n=91

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Electronic Health Records Utilization

- More than 90% of hospital respondents are currently utilizing an Electronic Health Records (EHR) system at their location

- **Expected hospital implementation of EHR systems within 3 years is 100%**

Q8. How would you characterize your use of an Electronic Health Record (EHR) system?
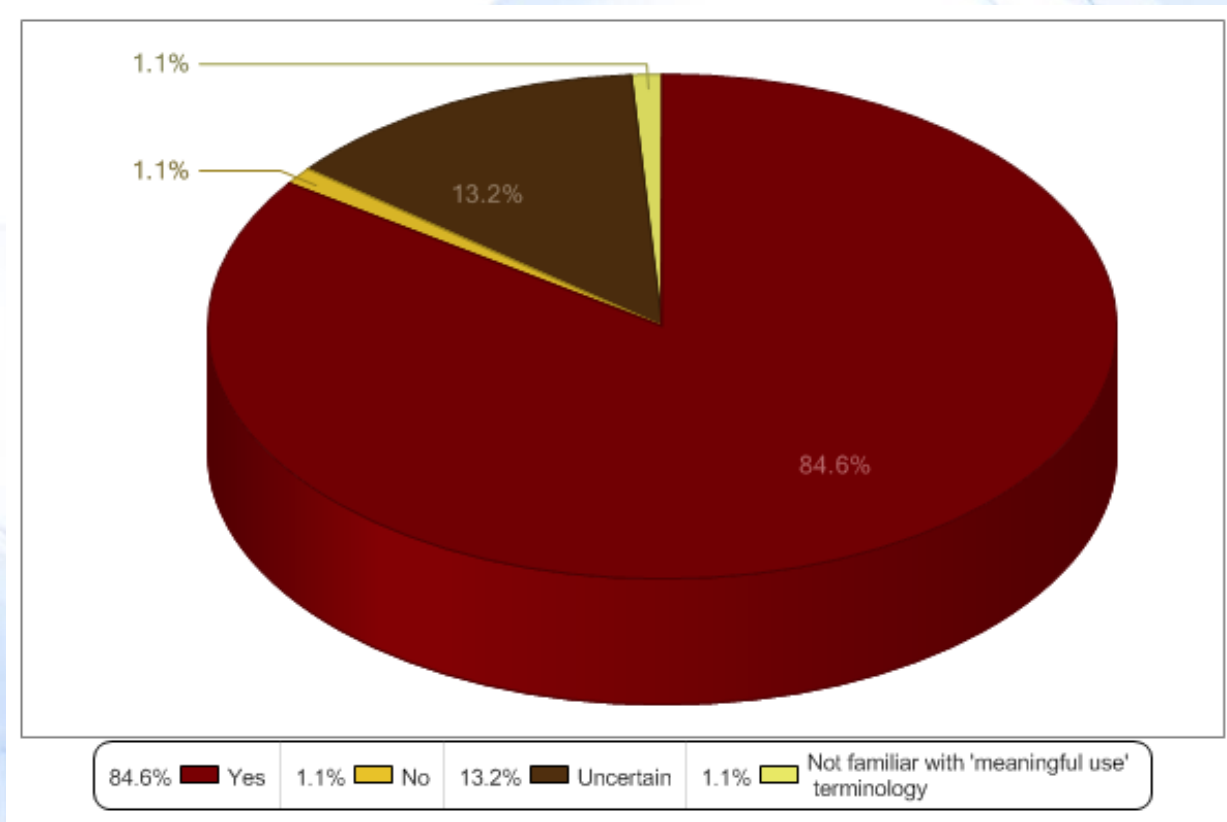

92.3% ■ Currently using EHR system		5.5% ■ Plan to implement EHR between 1-3 years from now
2.2% ■ Plan to implement EHR within 1 year		

n=91

Electronic Health Records: digital records of patient health information generated by one or more encounters in any care delivery setting.

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EHR Implementation and Meaningful Use

- Nearly 85% of responding hospitals believe they will meet U.S. Department of Health and Human Services' criteria for 'meaningful use' of an EHR system by 2015

- **Between 10-15% are Uncertain, which has increased slightly from last year**

Q9. Do you expect to meet the Department of Health and Human Services criteria for 'meaningful use' of an EHR system in all stages by 2015?
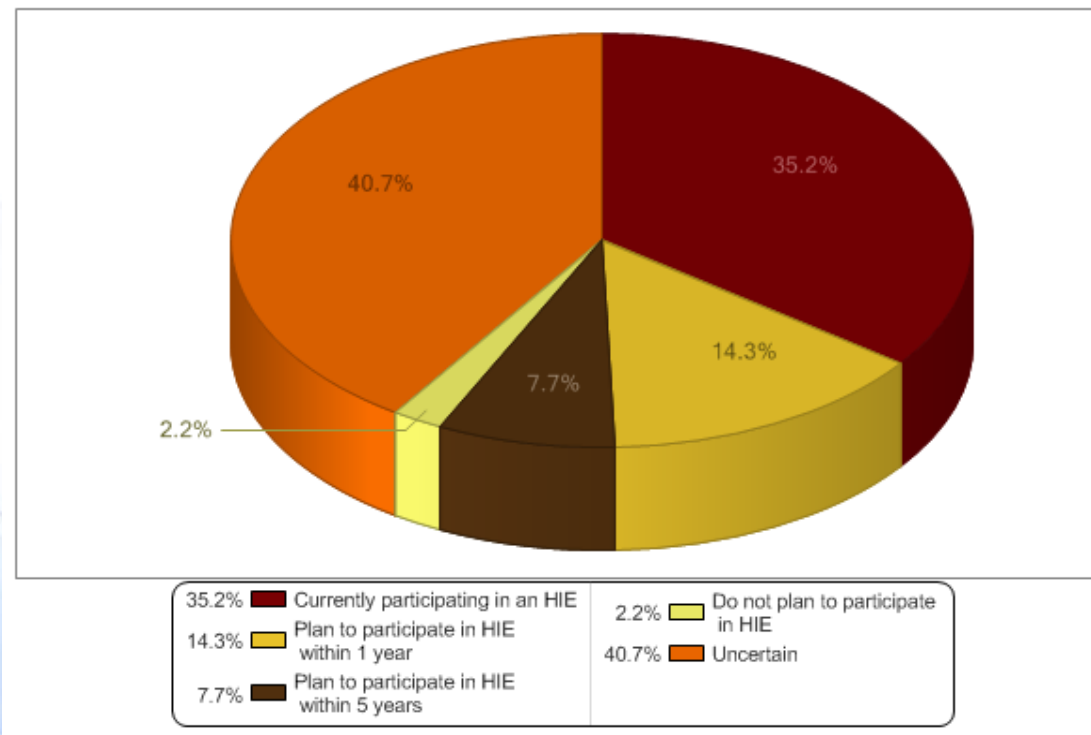

84.6% ■ Yes   1.1% ☐ No   13.2% ■ Uncertain   1.1% ☐ Not familiar with 'meaningful use' terminology

n=91

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Health Information Exchange Participation

- 35% of responding hospitals are participating in Health Information Exchange (HIE) in the Commonwealth, similar to last year
- **Within 1 year, however, nearly 50% of hospitals expect to be participating in HIE**

Q10. Does your location currently participate with other healthcare providers in a Health Information Exchange (HIE)?

|		
35.2% Currently participating in an HIE	2.2%	Do not plan to participate in HIE
14.3% Plan to participate in HIE within 1 year	40.7%	Uncertain
7.7% Plan to participate in HIE within 5 years		

n=91
Health Information Exchange: a network characterized by the reliable and secure transmission, access, and retrieval of healthcare-related data among diverse facilities, health information organizations (HIOs) and government agencies according to national standards.

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Telehealth Usage and Key Services

- **More than 50% of responding hospitals are actively using Telehealth now, and two-thirds expect to be using Telehealth within 3 years**

- In contrast to the overall population, 'live' clinical Telehealth (Video and RPM) appears to be increasing substantially in awareness and use at hospitals

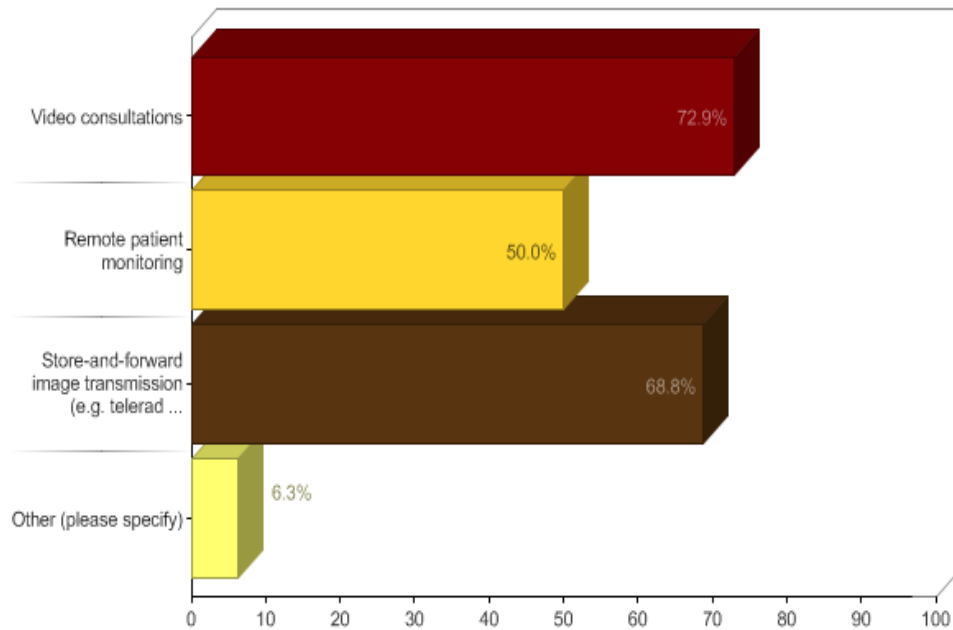*Q6. How would you characterize your location's use of Telehealth services?*

Q7. Which of the following Telehealth services do you utilize? (CHECK ALL THAT APPLY)
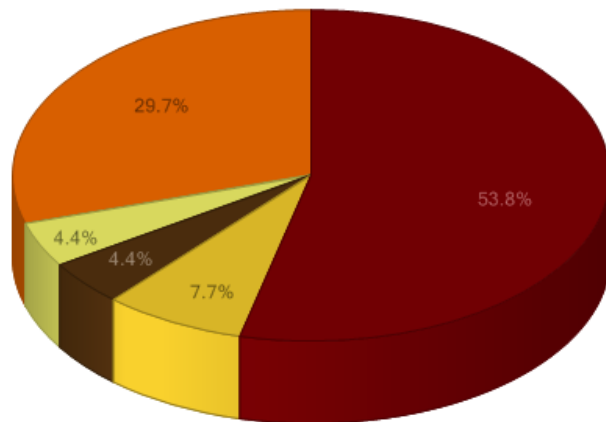
Pie chart (Q6):
- 53.8% — Currently using Telehealth
- 7.7% — Plan to implement Telehealth within 1 year
- 4.4% — Plan to implement Telehealth between 1-3 years f ...
- 4.4% — Do not plan to implement Telehealth
- 29.7% — Uncertain

Bar chart (Q7):
- Video consultations — 72.9%
- Remote patient monitoring — 50.0%
- Store-and-forward image transmission (e.g. telerad ...) — 68.8%
- Other (please specify) — 6.3%

n=91

Telehealth: the use of advanced telecommunications to aid in the clinical practice of medicine, using technologies that enable video consultation, remote monitoring, and store-and-forward image transmission over fixed or mobile networks.

n=49. Note that percentages add up to more than 100% because multiple responses were allowed

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Detailed Provider Analysis: Physicians 2011

# Survey Demographics: Physicians

- Physicians participating in the survey are largely independent, with the remaining 30% owned by, or affiliated with, a major health system

- A wide range of physician practice sizes are represented, with an even distribution between small and large practices

- Rural physicians are also represented, with slightly more than 25% located in Rural or Mixed Rural counties (per the Isserman definition)

How would you characterize the practice's affiliation?
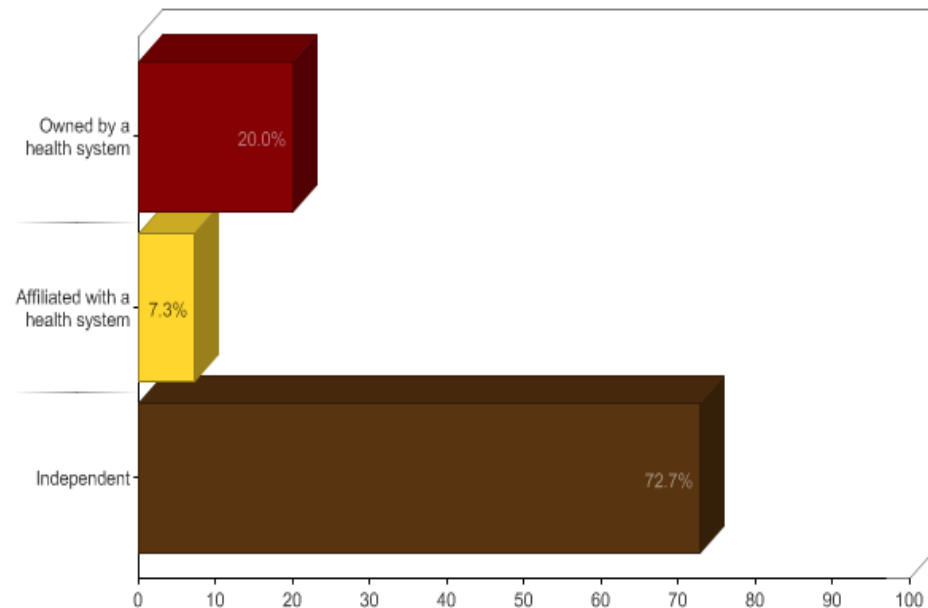
*How would you characterize the size of the location/practice?*

n=205
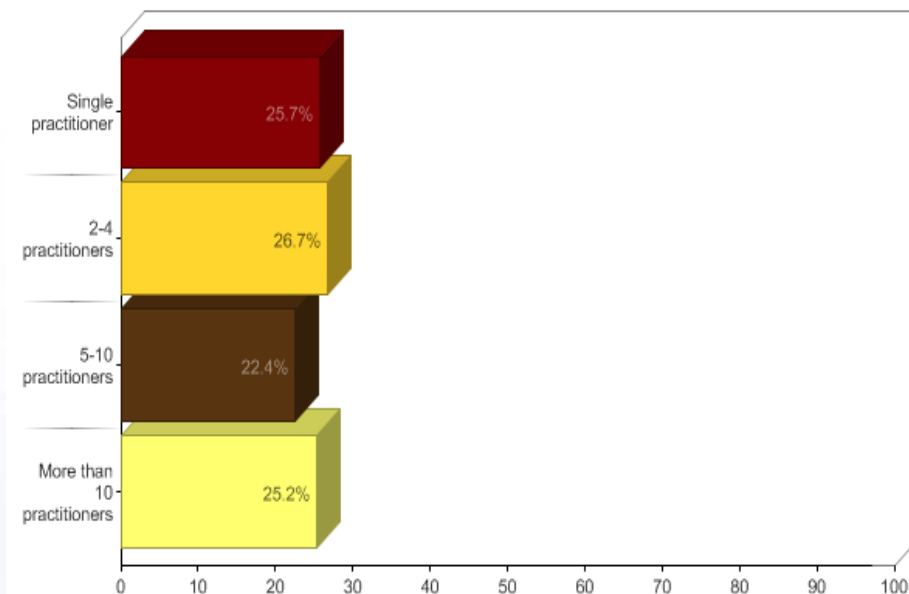
n=210

40

Broadband Usage by Type of Service

- Nearly all physicians surveyed report the use of some form of broadband

- Fiber/Dedicated Internet Access is the most common type of service at more than 40% of physicians, with DSL (Digital Subscriber Line) and Cable divided relatively equally across the remainder

- Some physicians report using multiple modes of broadband service, but this is significantly less prevalent than in other population segments (e.g. hospitals)
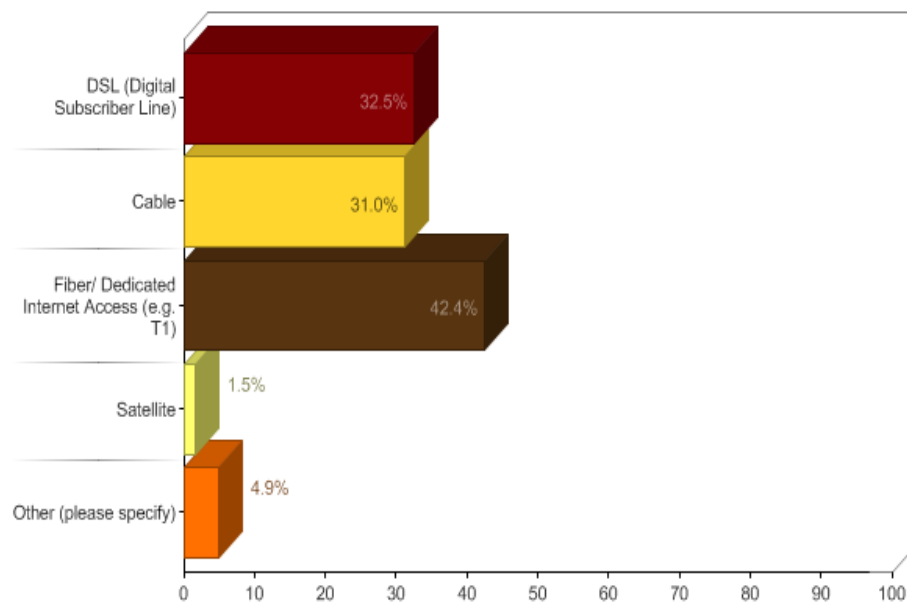
Q1. Does your healthcare location utilize broadband (i.e. high-speed) internet service?
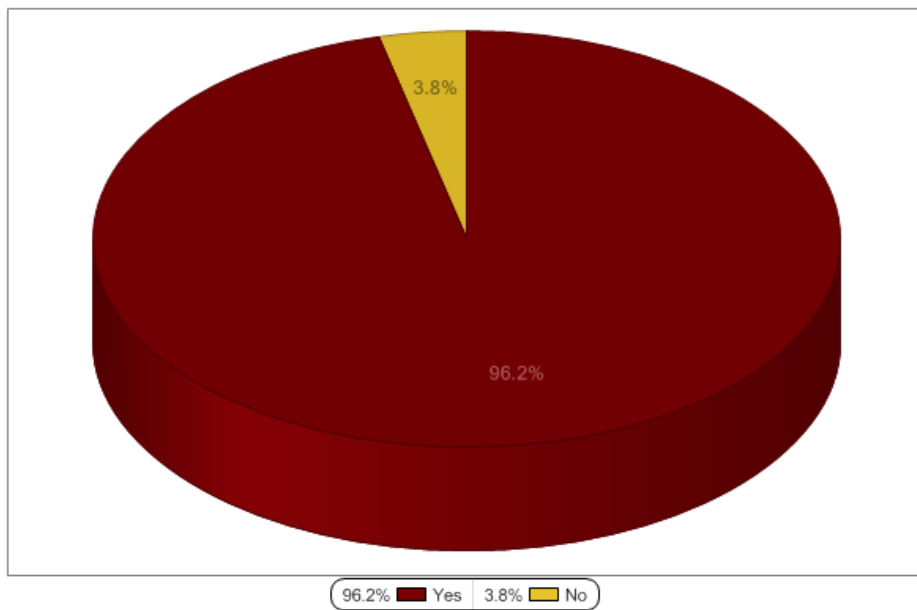
| 96.2% | Yes | 3.8% | No |

n-=211

Broadband Service: High-speed Internet access (e.g. DSL, Cable, Fiber, etc) providing two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users. (definition per National Telecommunications Information Administration)

*Q2. What type of broadband service does your healthcare location utilize: (CHECK ALL THAT APPLY)*

DSL (Digital Subscriber Line) — 32.5%
Cable — 31.0%
Fiber/ Dedicated Internet Access (e.g. T1) — 42.4%
Satellite — 1.5%
Other (please specify) — 4.9%

n=203. Note that percentages add up to more than 100% because multiple responses were allowed

Importance of Broadband for Health IT

- Broadband connectivity is clearly most important for physicians' Electronic Health Record priorities, as well as for basic E-mail and Internet search

- Broadband appears significantly less important for Telehealth

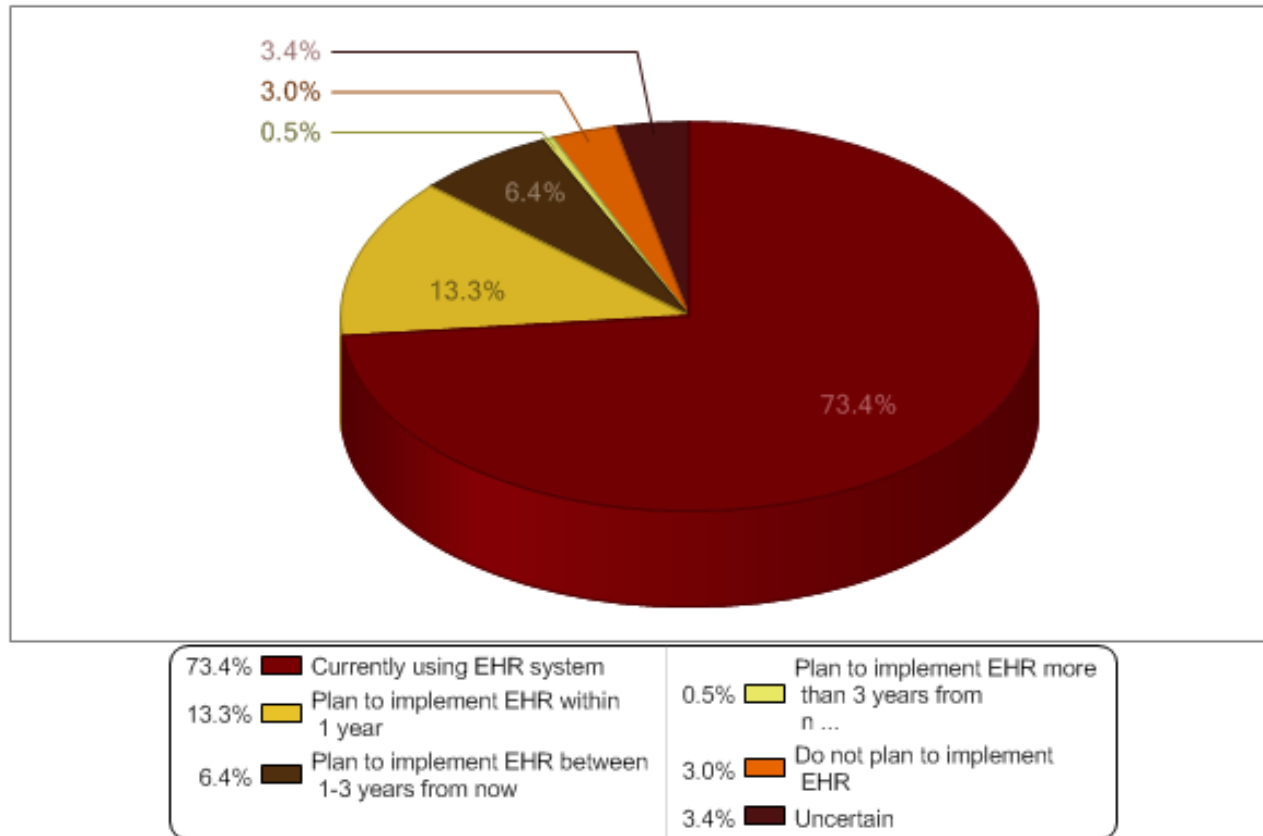*Q5. For which of the following functions is broadband connectivity MOST essential?*
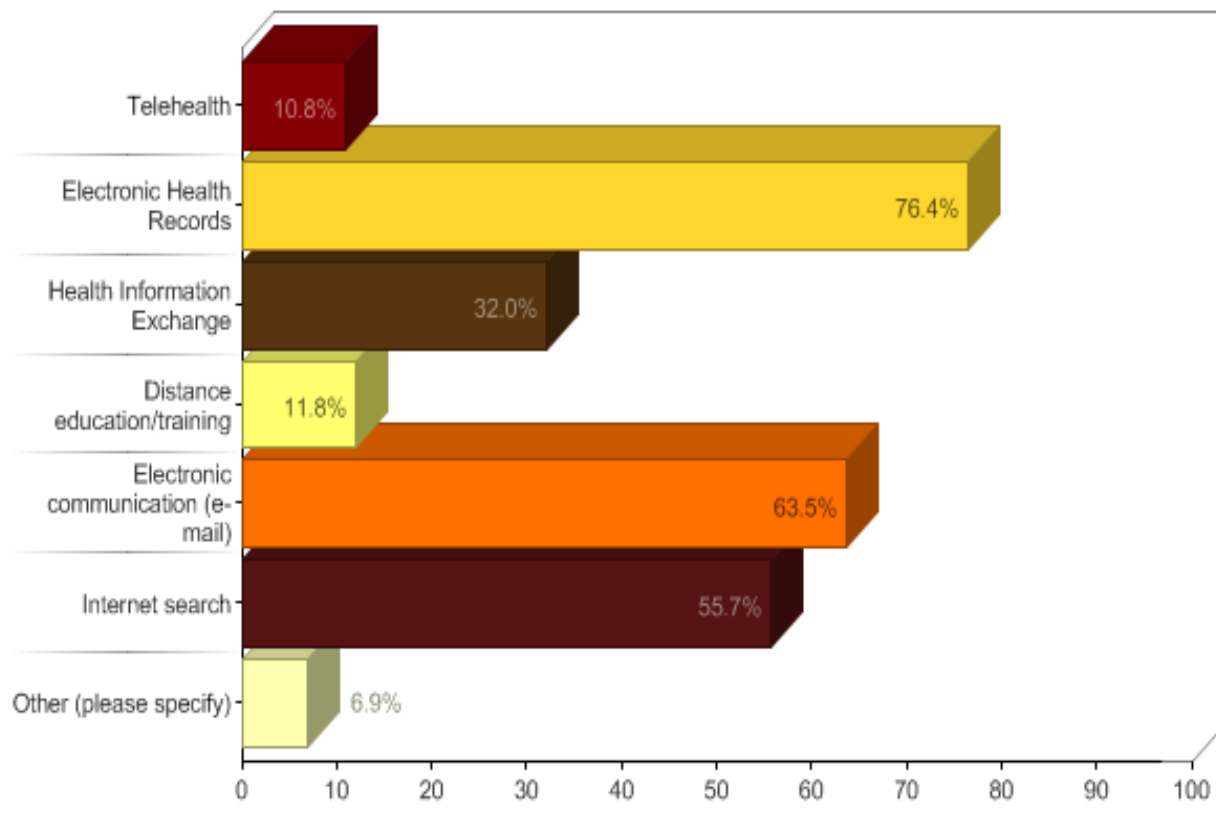
n=203

Electronic Health Records Utilization

- More than 70% of physician respondents are currently utilizing an Electronic Health Records (EHR) system at their location

- **Expected physician implementation of EHR systems within 3 years is more than 90%**

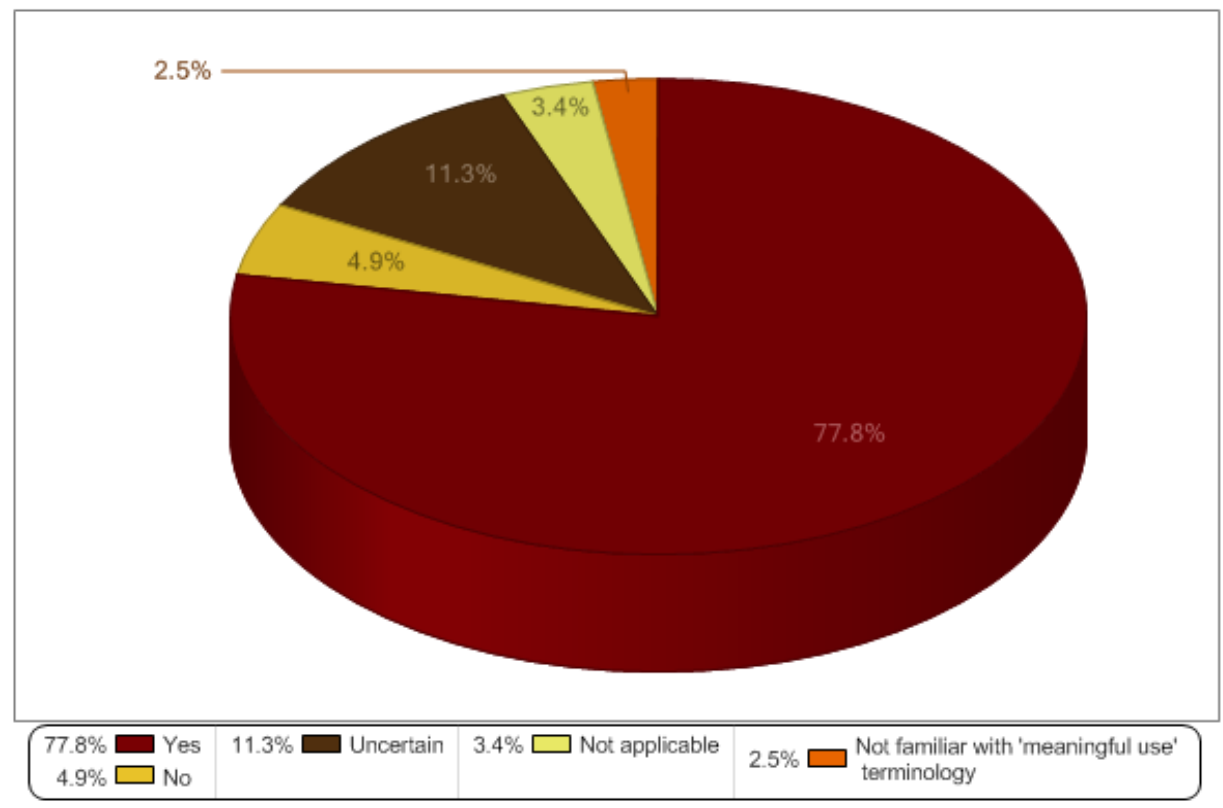*Q8. How would you characterize your use of an Electronic Health Record (EHR) system?*

73.4% ■ Currently using EHR system	0.5% □ Plan to implement EHR more than 3 years from n ...
13.3% □ Plan to implement EHR within 1 year	3.0% ■ Do not plan to implement EHR
6.4% ■ Plan to implement EHR between 1-3 years from now	3.4% ■ Uncertain

n=203

Electronic Health Records: digital records of patient health information generated by one or more encounters in any care delivery setting.

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EHR Implementation and Meaningful Use

- Nearly 80% of responding physicians believe they will meet U.S. Department of Health and Human Services' criteria for 'meaningful use' of an EHR system by 2015

- This figure has improved from 75% in 2010

Q9. Do you expect to meet the Department of Health and Human Services criteria for 'meaningful use' of an EHR system in all stages by 2015?
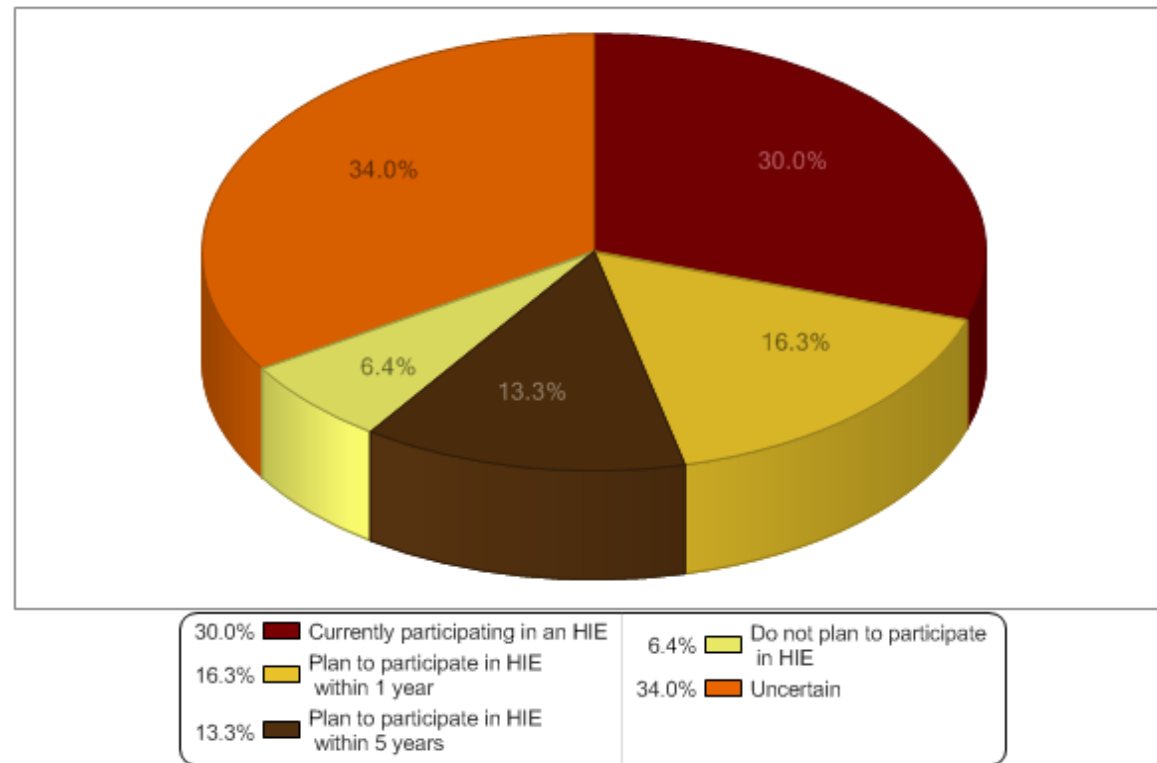

| 77.8% | Yes | 11.3% | Uncertain | 3.4% | Not applicable | 2.5% | Not familiar with 'meaningful use' terminology |
| 4.9% | No | | | | | | |

n=203

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Health Information Exchange Participation

- 30% of responding physicians are participating in Health Information Exchange (HIE) in the Commonwealth

- **This is a significant increase from last year's 10%, reflecting both increased emphasis on EHR planning and integration**

Q10. Does your location currently participate with other healthcare providers in a Health Information Exchange (HIE)?

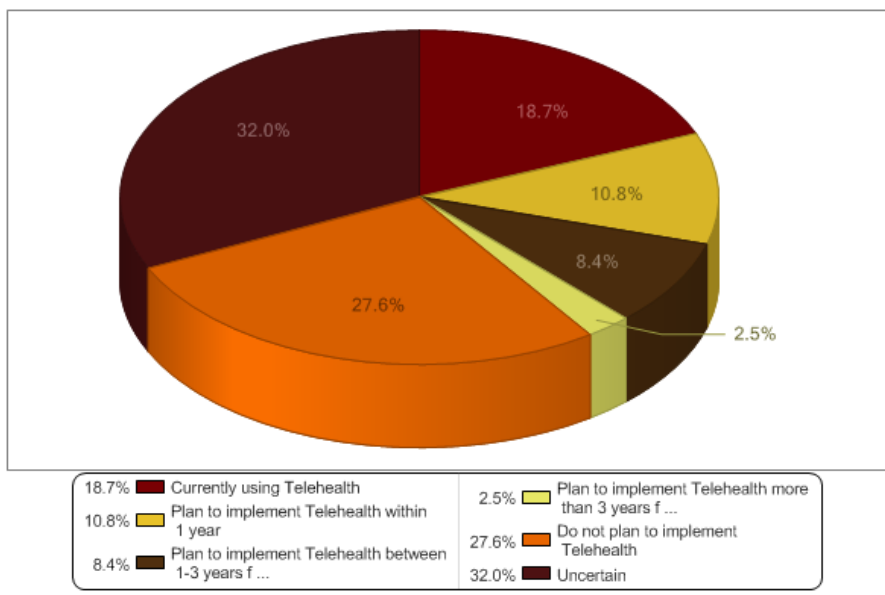|		
30.0%	Currently participating in an HIE	
16.3%	Plan to participate in HIE within 1 year	
13.3%	Plan to participate in HIE within 5 years	
6.4%	Do not plan to participate in HIE	
34.0%	Uncertain	

n=203
Health Information Exchange: a network characterized by the reliable and secure transmission, access, and retrieval of healthcare-related data among diverse facilities, health information organizations (HIOs) and government agencies according to national standards.

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Telehealth Usage and Key Services

- **Less than 20% of responding physicians are actively using Telehealth now, but nearly 40% expect to be using Telehealth within 3 years**

- The leading Telehealth service utilized continues to involve Store-and-Forward technology solutions; 'live' clinical Telehealth solutions appear to be in early stages of awareness and use among physicians
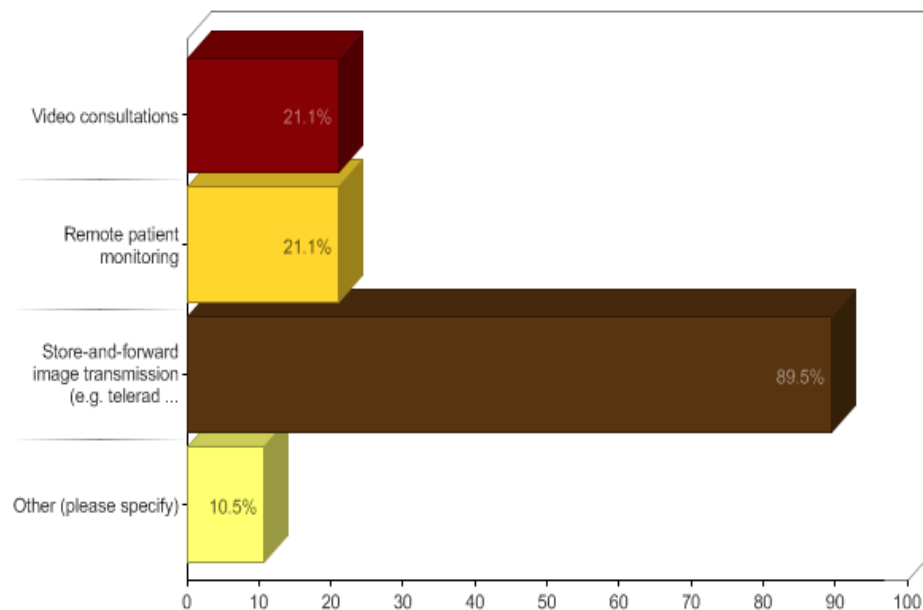
Q6. How would you characterize your location's use of Telehealth services?

Q7. Which of the following Telehealth services do you utilize? (CHECK ALL THAT APPLY)

18.7%	Currently using Telehealth
10.8%	Plan to implement Telehealth within 1 year
8.4%	Plan to implement Telehealth between 1-3 years f ...
2.5%	Plan to implement Telehealth more than 3 years f ...
27.6%	Do not plan to implement Telehealth
32.0%	Uncertain

n=203

Telehealth: the use of advanced telecommunications to aid in the clinical practice of medicine, using technologies that enable video consultation, remote monitoring, and store-and-forward image transmission over fixed or mobile networks.

n=38. Note that percentages add up to more than 100% because multiple responses were allowed

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Appendix:
Rural Health Clinics 2011

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Survey Process: Rural Health Clinics

- Rural Health Clinics were underrepresented in the 2010 survey due to lack of contact information and outreach capability

- In 2011, VDH Office of Rural Health and the Virginia Rural Health Association built a comprehensive database of RHCs and requested assistance in surveying this population
  - Print-based (mail/fax invitations) to facilitate participation
  - Follow-up phone calls to endorse/drive participation

- In addition to core survey questions, participants were asked to share their educational/training needs and preferences

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Summary Findings: Rural Health Clinics

- Of 23 respondents, <u>more than 90%</u> reported the use of broadband service

    - Note that, of the 3 RHCs that were able to complete a speed test, average speeds were only slightly higher than the NTIA threshold for broadband

    - DSL was the most commonly-used broadband service at more than 50%, followed by Cable at nearly 25%

- Broadband is believed to be most essential for Electronic Health Records (more than 80%)

    - E-mail and internet search also important

- About 50% of responding RHCs are currently using EHR systems

    - 90% expect to be implementing EHR in the next 3 years

    - About 75% expect to meet EHR 'meaningful use' criteria by 2015

- More than 50% expect to participate in HIE within the next 5 years, though little current activity exists

- Telehealth is not high on the priority list, with more than 50% uncertain and nearly 30% not planning to implement

Broadband Usage by Type of Service

- Most RHCs surveyed report the use of some form of broadband

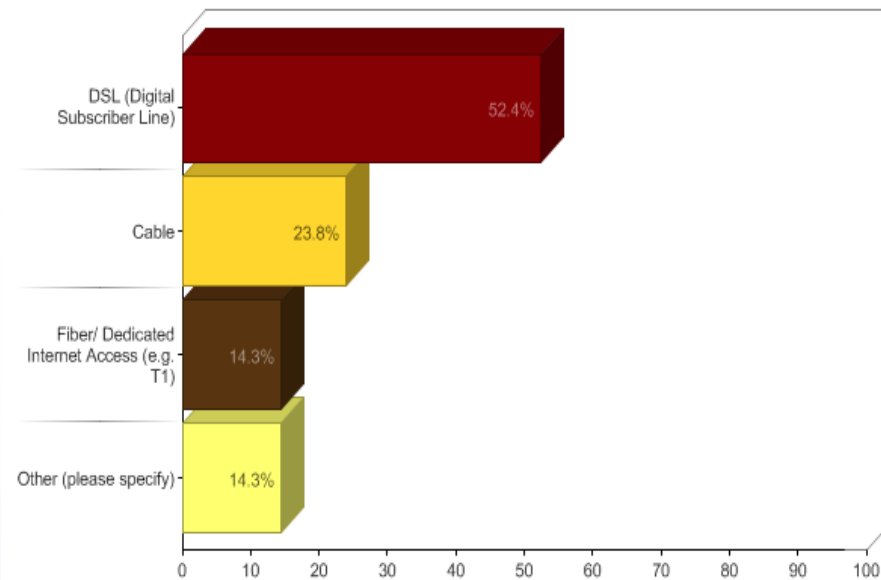- DSL is the most common type of service at more than 50% of physicians, followed by Cable

Q1. Does your healthcare location utilize broadband (i.e. high-speed) internet service?

91.3% ■ Yes   8.7% □ No
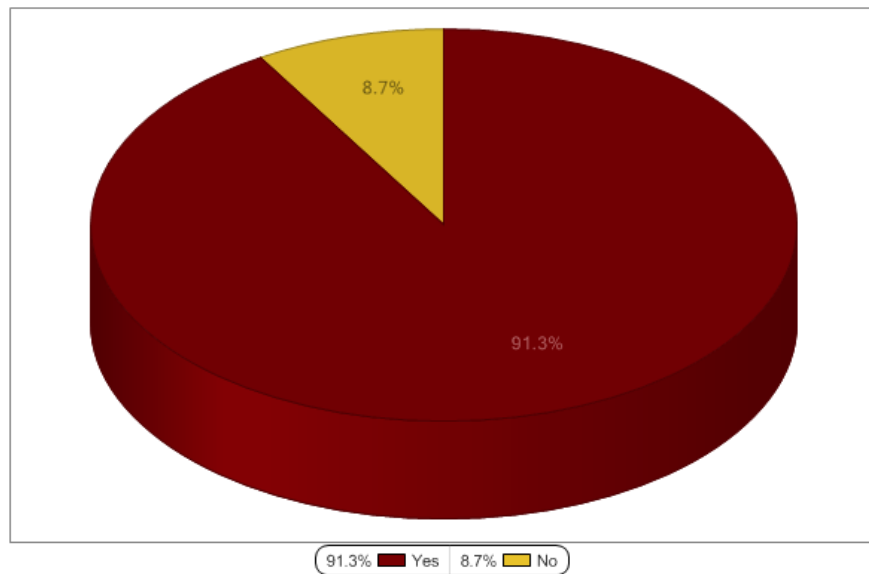
n-=23

Broadband Service: High-speed Internet access (e.g. DSL, Cable, Fiber, etc) providing two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users. (definition per National Telecommunications Information Administration)

Q2. What type of broadband service does your healthcare location utilize: (CHECK ALL THAT APPLY)


n=21. Note that percentages add up to more than 100% because multiple responses were allowed

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Importance of Broadband for Health IT

- Broadband connectivity is clearly most important for RHC's Electronic Health Record priorities, as well as for basic E-mail, Internet search, and, potentially, for Health Information Exchange

- Broadband appears significantly less important for Telehealth

Q5. For which of the following functions is broadband connectivity MOST essential?


n=21

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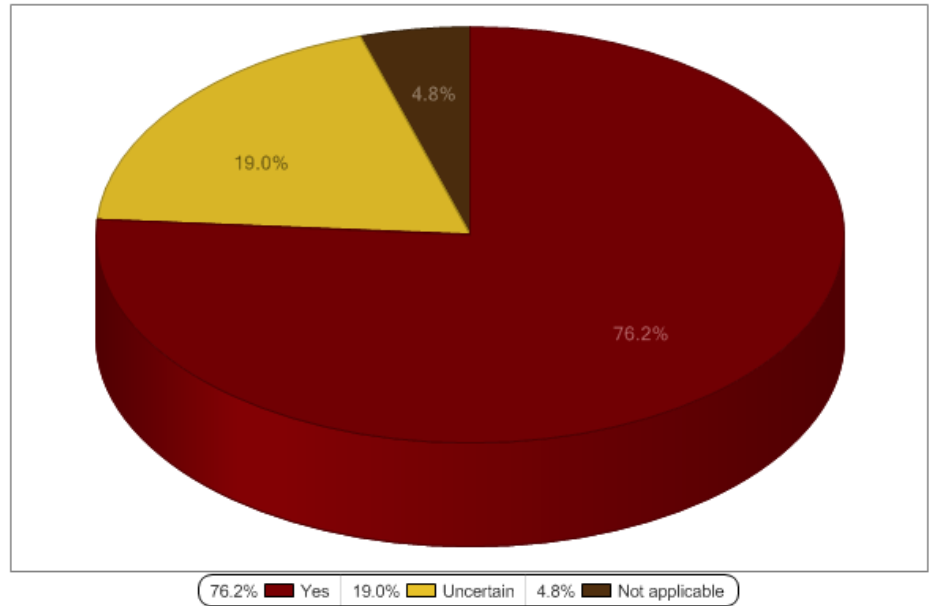
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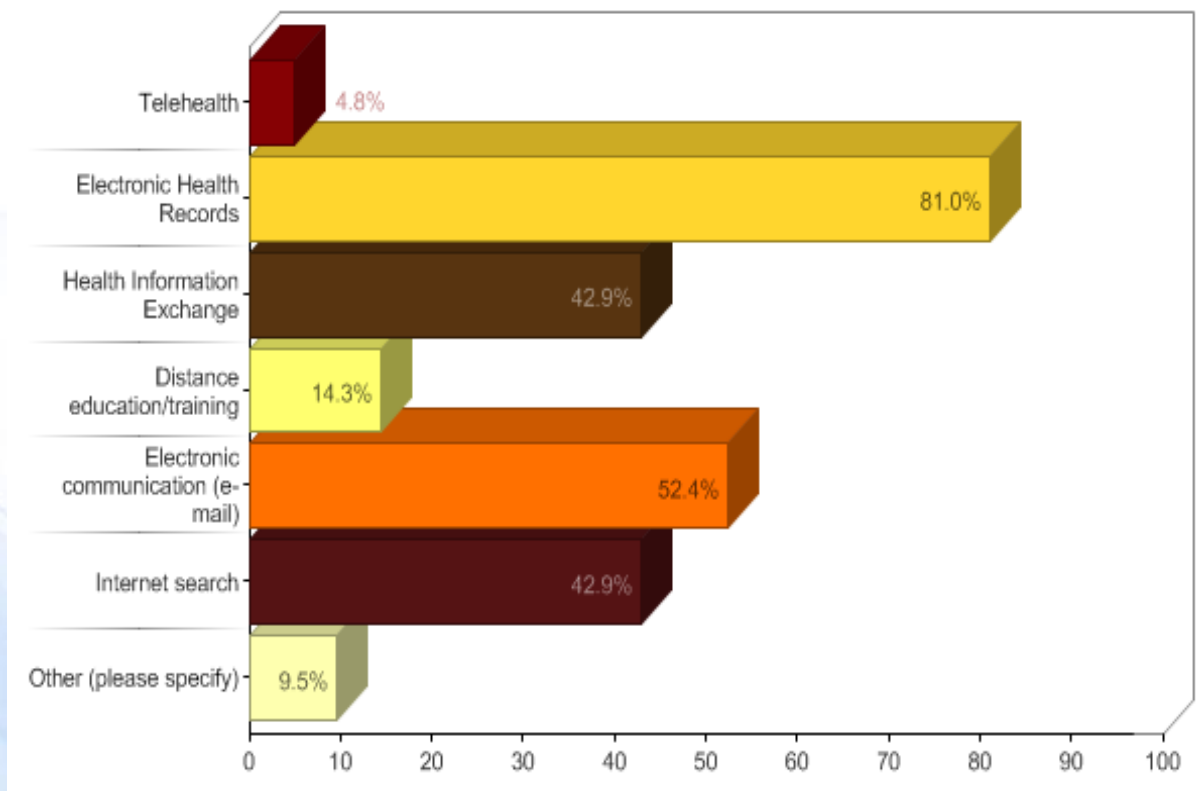
51

EHR Utilization and Meaningful Use

- About 50% of responding RHCs are currently using EHR systems
- 90% expect to be implementing EHR in the next 3 years
- About 75% expect to meet EHR 'meaningful use' criteria by 2015

Q8. How would you characterize your use of an Electronic Health Record (EHR) system?
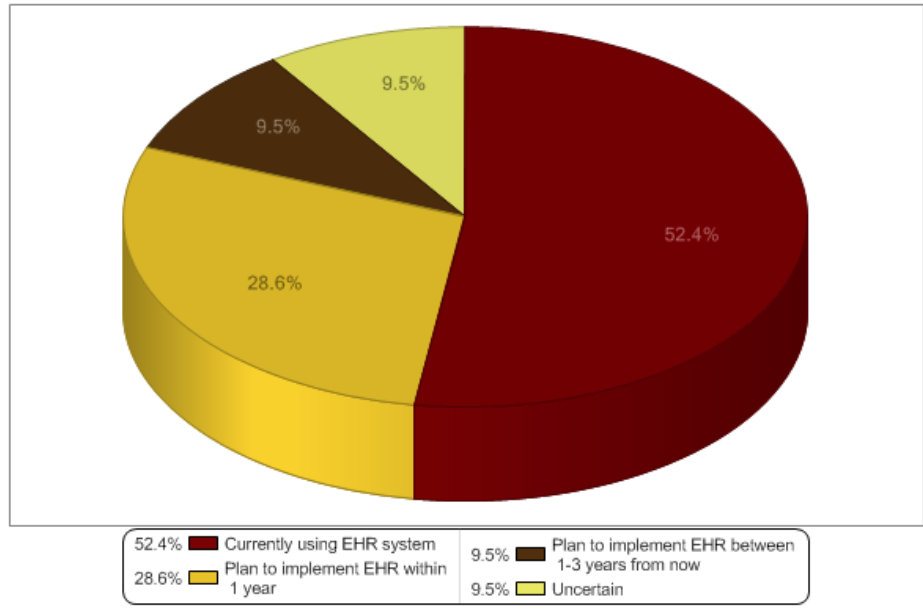
Q9. Do you expect to meet the Department of Health and Human Services criteria for 'meaningful use' of an EHR system in all stages by 2015?

Q8 pie chart:
- 52.4% ■ Currently using EHR system
- 28.6% ■ Plan to implement EHR within 1 year
- 9.5% ■ Plan to implement EHR between 1-3 years from now
- 9.5% ■ Uncertain

Q9 pie chart:
- 76.2% ■ Yes
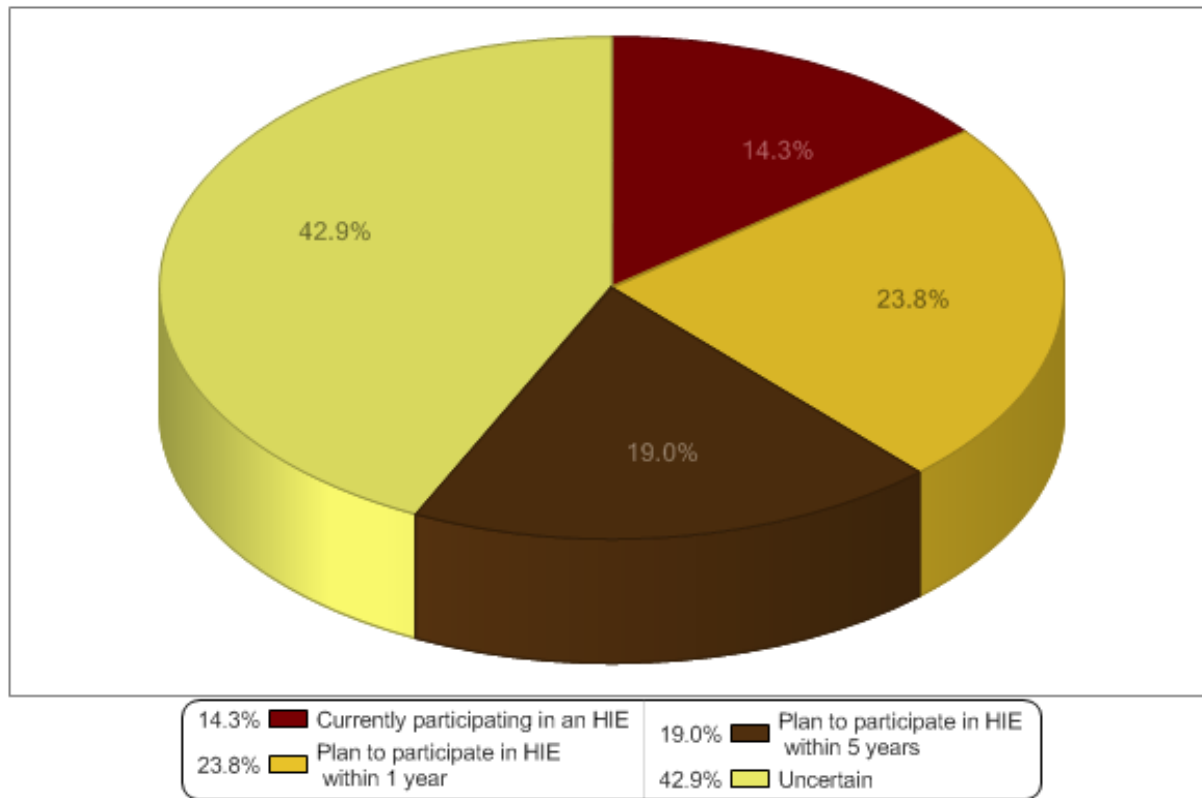- 19.0% ■ Uncertain
- 4.8% ■ Not applicable

n=21

Electronic Health Records: digital records of patient health information generated by one or more encounters in any care delivery setting.

Health Information Exchange Participation

- More than 50% of responding RHCs expect to participate in HIE within the next 5 years, though little current activity exists

Q10. Does your location currently participate with other healthcare providers in a Health Information Exchange (HIE)?

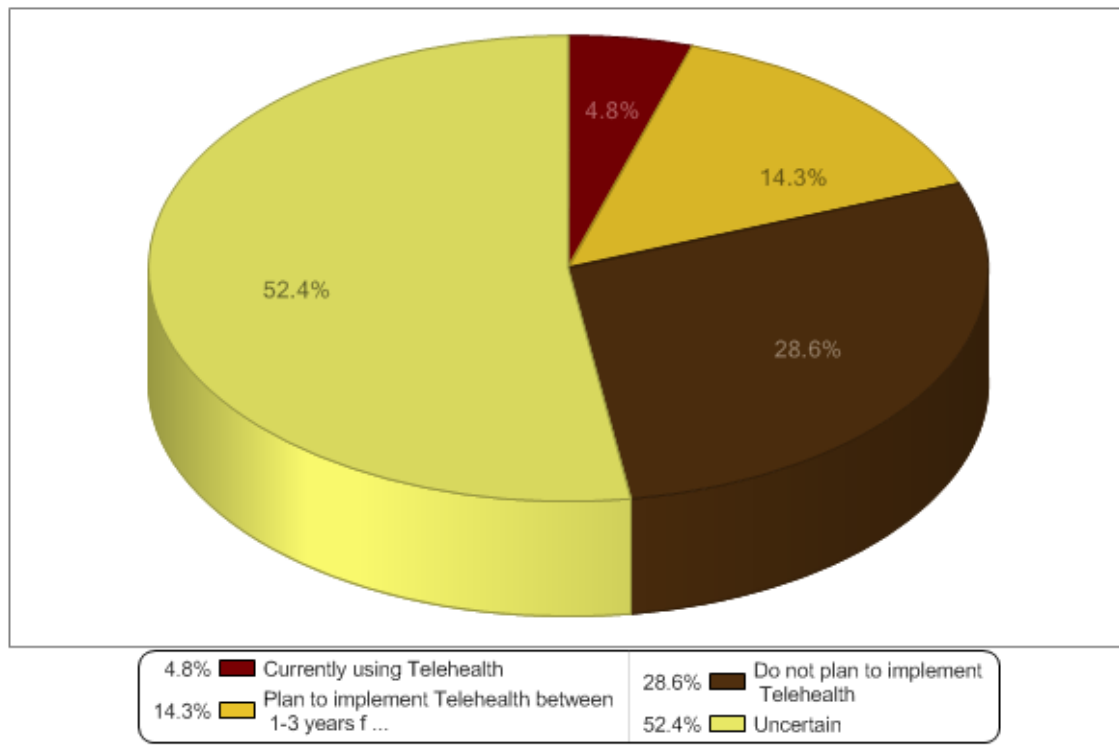| 14.3% | Currently participating in an HIE | 19.0% | Plan to participate in HIE within 5 years |
| 23.8% | Plan to participate in HIE within 1 year | 42.9% | Uncertain |

n=21

Health Information Exchange: a network characterized by the reliable and secure transmission, access, and retrieval of healthcare-related data among diverse facilities, health information organizations (HIOs) and government agencies according to national standards.

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Telehealth Usage and Key Services

- **Less than 20% of responding RHCs plan to implement Telehealth in the next 3 years**
- There appears to be significant uncertainty around the benefits and potential for implementing Telehealth in this segment

Q6. How would you characterize your location's use of Telehealth services?

4.8% ■ Currently using Telehealth	28.6% ■ Do not plan to implement Telehealth	
14.3% □ Plan to implement Telehealth between 1-3 years f …	52.4% □ Uncertain	

n=21

Telehealth: the use of advanced telecommunications to aid in the clinical practice of medicine, using technologies that enable video consultation, remote monitoring, and store-and-forward image transmission over fixed or mobile networks.

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